

[SIGN IN](#) | [REGISTER](#)

Enter search term



PUBLICATIONS ▾



AHA/ASA Journals



Enter search term

Enter search term

Journal

Year

Volume

Issue

Page

SEARCHING:

This Journal



ADVANCED
SEARCH

SEARCH



INFORMATION FOR ADVERTISERS

FEATURES

CIRC ON THE RUN PODCAST

SPECIAL ISSUES

CIRCULATION AT MAJOR MEETINGS

SUPPLEMENTS

HOSPITALS OF HISTORY

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION ▾

FOR AUTHORS

FOR REVIEWERS

FOR SUBSCRIBERS

FOR INTERNATIONAL USERS

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

FEATURES

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

[HYPERTENSION](#)

[STROKE](#)

[JOURNAL OF THE AMERICAN HEART ASSOCIATION](#)

[CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY](#)

[CIRCULATION: CARDIOVASCULAR IMAGING](#)

[CIRCULATION: CARDIOVASCULAR INTERVENTIONS](#)

[CIRCULATION: POPULATION HEALTH AND OUTCOMES](#)

[CIRCULATION: GENOMIC AND PRECISION MEDICINE](#)

[CIRCULATION: HEART FAILURE](#)

[STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY](#)

[ANNALS OF INTERNAL MEDICINE: CLINICAL CASES](#)

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)

PUBLICATIONS

ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY

CIRCULATION

[CURRENT ISSUE](#)

[ARCHIVE](#)

[JOURNAL INFORMATION](#)

[ABOUT CIRCULATION](#)

[AUTHOR INSTRUCTIONS](#)

[EDITORIAL BOARD](#)

[INFORMATION FOR ADVERTISERS](#)

[FEATURES](#)

[CIRC ON THE RUN PODCAST](#)

[SPECIAL ISSUES](#)

[CIRCULATION AT MAJOR MEETINGS](#)

[SUPPLEMENTS](#)

[HOSPITALS OF HISTORY](#)

CIRCULATION RESEARCH

HYPERTENSION

STROKE

JOURNAL OF THE AMERICAN HEART ASSOCIATION

CIRCULATION: ARRHYTHMIA AND ELECTROPHYSIOLOGY

CIRCULATION: CARDIOVASCULAR IMAGING

CIRCULATION: CARDIOVASCULAR INTERVENTIONS

CIRCULATION: POPULATION HEALTH AND OUTCOMES

CIRCULATION: GENOMIC AND PRECISION MEDICINE

CIRCULATION: HEART FAILURE

STROKE: VASCULAR AND INTERVENTIONAL NEUROLOGY

ANNALS OF INTERNAL MEDICINE: CLINICAL CASES

INFORMATION

[FOR AUTHORS](#)

[FOR REVIEWERS](#)

[FOR SUBSCRIBERS](#)

[FOR INTERNATIONAL USERS](#)