

**CHINA  
PERIPHERAL ARTERY DISEASE AND  
CRITICAL LIMB ISCHEMIA  
PREVALENCE AND INCIDENCE**

Mary L. Yost  
THE SAGE GROUP  
404-520-6652

THE SAGE GROUP, LLC  
23 Ridge Rd  
Beaufort SC 29907

Copyright Pending  
2017

All rights reserved, including the right of reproduction  
in whole or in part in any form.

## Table of Contents

SUMMARY AND CONCLUSIONS .....	6
DEFINITIONS.....	6
Prevalence .....	6
Incidence .....	6
CHINA.....	7
The World's Most Populous Country is Aging Rapidly.....	7
High Prevalence of Peripheral Artery Disease Risk Factors .....	7
DIABETES IN CHINA .....	8
China Leads the World in Number of Diabetics.....	8
Increasing Prevalence of Diabetes .....	9
Diabetes is Different in Asians .....	9
DIABETES METHOD .....	9
Description .....	9
Limitations in Chinese Epidemiology Studies.....	10
CHINA—PREVALENCE OF PERIPHERAL ARTERY DISEASE .....	10
CHINA—DIABETES BY AGE GROUP .....	11
PERIPHERAL ARTERY DISEASE PREVALENCE BY AGE AND GLUCOSE STATUS .....	11
RESEARCH ON PERIPHERAL ARTERY DISEASE IN CHINESE DIABETICS .....	12
Mainland China.....	12
Prevalence Increases with Age .....	12
Higher Prevalence in Women .....	14
Taiwan.....	14
Inclusion of Abnormally High ABI Increases Prevalence.....	15
RESEARCH ON PERIPHERAL ARTERY DISEASE PREVALENCE IN THE GENERAL POPULATION .....	15
SUMMARY OF PERIPHERAL ARTERY DISEASE ESTIMATES BASED ON OTHER RISK FACTORS.....	16
Rationale for Employing Hypertension for Peripheral Artery Disease Prevalence Estimates .....	16
HYPERTENSION .....	17
One of the Most Common Chronic Diseases.....	17
Hypertension Increases the Risk for Peripheral Artery Disease .....	18
Peripheral Artery Disease Prevalence in Chinese Hypertensives.....	18
Risk of Peripheral Artery Disease Increases as Blood Pressure Rises .....	19
PERIPHERAL ARTERY DISEASE ESTIMATES BASED ON PREVALENCE IN HYPERTENSION .....	20
Population Ages 40 and Older .....	20
Population Ages 30-39.....	21
CHRONIC KIDNEY DISEASE (CKD).....	22
Definition .....	22
A Growing Health Problem in China.....	22
Chronic Kidney Disease Increases the Risk of Peripheral Artery Disease.....	22
Peripheral Artery Disease Prevalence in Chinese with Chronic Kidney Disease .....	22

PERIPHERAL ARTERY DISEASE ESTIMATES BASED ON PREVALENCE IN CHRONIC KIDNEY DISEASE.....	23
SMOKING.....	23
The Strongest Modifiable Risk Factor for Peripheral Artery Disease .....	24
Peripheral Artery Disease in Chinese Smokers .....	24
Peripheral Artery Disease in Those Exposed to Secondhand Smoke.....	24
PERIPHERAL ARTERY DISEASE ESTIMATES BASED ON PREVALENCE IN SMOKERS AND EXPOSURE TO SECONDHAND SMOKE .....	24
Population Ages 60 and Older .....	25
Population Ages 30-59.....	26
CHINESE PERIPHERAL ARTERY DISEASE ESTIMATES BASED ON PERCENT PREVALENCE IN TWO US STUDIES.....	27
IS PERIPHERAL ARTERY DISEASE SIGNIFICANTLY LESS PREVALENT IN THE CHINESE?.....	28
Research Frequently States That Prevalence in Asians is Lower .....	28
LIMITATIONS OF USING ABI $\leq$ 0.90 TO DEFINE PERIPHERAL ARTERY DISEASE IN ASIANS .....	28
ABI < 0.90 Understates Disease in Populations with Stiff and Calcified Arteries .....	28
Asian Below-Knee Disease Location Reduces ABI < 0.90 Sensitivity.....	28
Studies in Korean and Japanese Patients .....	28
ABI Threshold of 0.95 Recommended for Detecting Peripheral Artery Disease in Chinese Population .....	29
Inclusion of Borderline ABI (0.90-0.99) Increases Disease Prevalence by Three Times in Chinese Diabetics.....	29
Abnormally High ABI Should be Included to Identify Peripheral Artery Disease in Diabetic Chinese.....	29
PERIPHERAL ARTERY DISEASE PREVALENCE IN CHINA IS SIMILAR IN COMPARABLE U.S. AND EUROPEAN STUDIES.....	30
U.S. and China Studies .....	30
Higher-Risk Patients in China and Europe .....	30
PERIPHERAL ARTERY DISEASE INCIDENCE .....	30
CRITICAL LIMB ISCHEMIA PREVALENCE.....	31
CRITICAL LIMB ISCHEMIA ESTIMATES BASED ON THE DIABETES METHOD .....	32
Critical Limb Ischemia in the Population Ages 60 and Older .....	32
Estimate Assumptions in the Population Ages 40-59.....	33
CRITICAL LIMB ISCHEMIA ESTIMATES BASED ON 11% OF THE PERIPHERAL ARTERY DISEASE POPULATION AGES 40 AND OLDER.....	33
Critical Limb Ischemia as a Percent of Peripheral Artery Disease in Other Countries	33
CRITICAL LIMB ISCHEMIA—PERCENT OF THE TOTAL POPULATION AGES 40 AND OLDER .....	33
CRITICAL LIMB ISCHEMIA INCIDENCE .....	34
SYMPTOMATIC PERIPHERAL ARTERY DISEASE ESTIMATES .....	34
ESTIMATED NUMBER OF PATIENTS DIAGNOSED AND TREATED.....	35
Critical Limb Ischemia .....	35
Intermittent Claudication .....	35

REFERENCES .....	37
INDEX OF TABLES .....	49
CONTACT INFORMATION.....	51

## **CONTACT INFORMATION**

### Research

Mary L. Yost  
President and Senior Analyst  
Telephone (404) 520-6652  
[yost@thesagegroup.us](mailto:yost@thesagegroup.us)

### Marketing

Harrington Witherspoon  
Senior Vice President  
Marketing  
Telephone (404) 816-0746  
[witherspoon@thesagegroup.us](mailto:witherspoon@thesagegroup.us)