

Chronic Total Occlusion of the Peripheral Arteries

Matt Selmon, M.D.
Austin Heart Hospital

Disclosure

**Dr. Matt Selmon acts
as a consultant to
Cordis Corporation**

Current Diagnosis Coding Schema

440 Atherosclerosis

The current schema provides no visibility of CTO conditions, i.e. native arteries of the extremities with CTO.

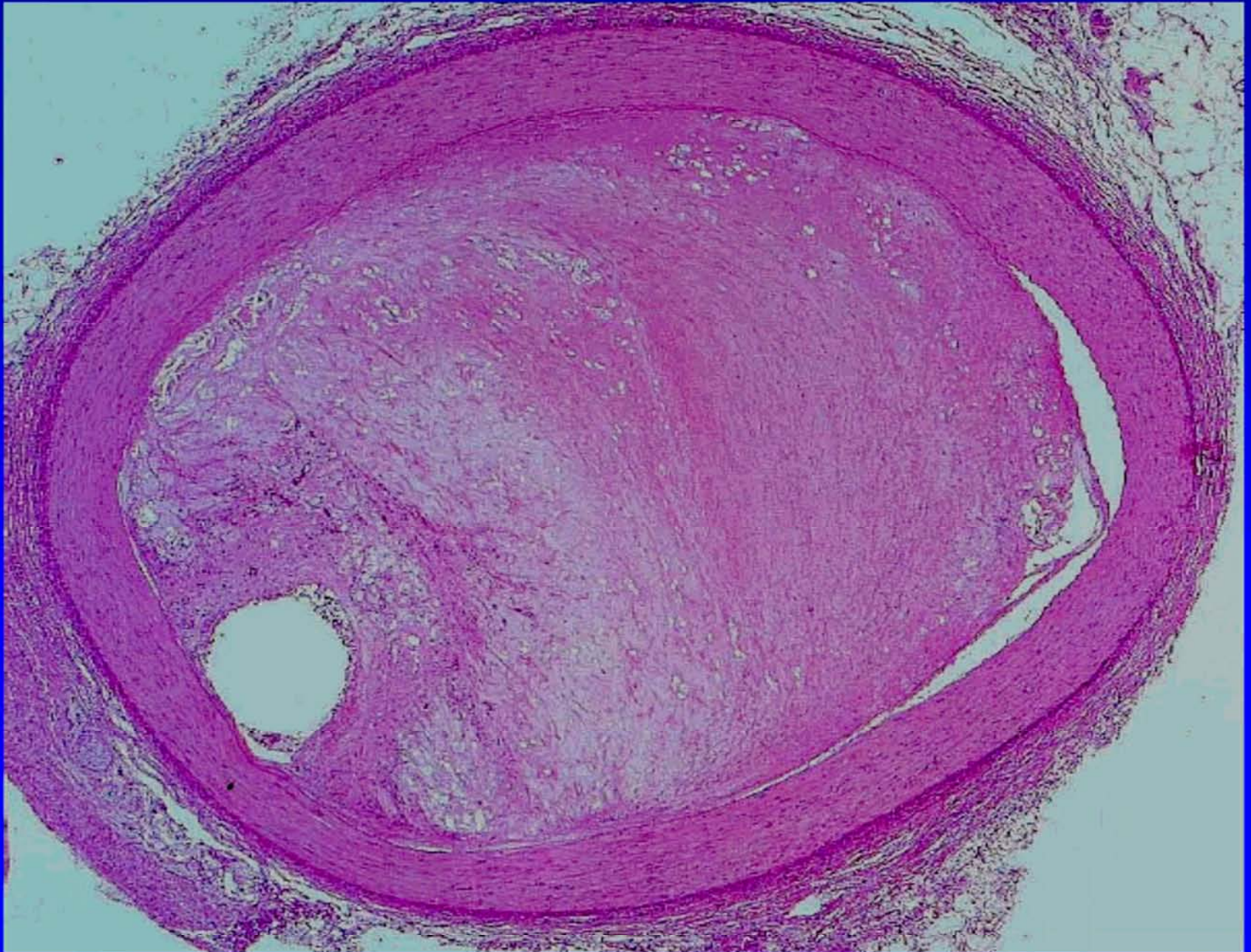
Significant prevalence overlap with coronary heart disease, and high correlation with mortality

Lack of long term clinical outcomes data due to no diagnosis code

Particularly virulent in diabetics

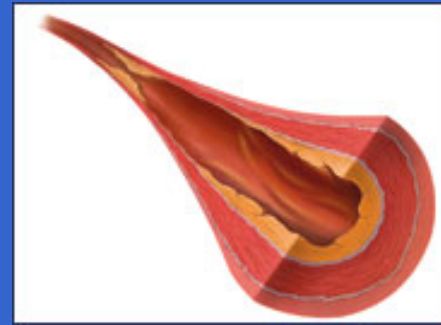
About 40% of patients with PVD interventions have Chronic Total Occlusions*

CTO: What's in the Lumen?



Chronic Total Occlusions

CTOs form when plaque accumulates in an artery, over months or years, resulting in clinically significant decrease in blood flow.

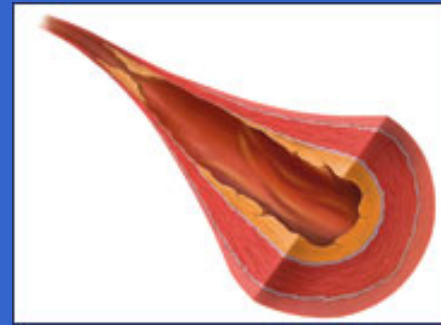


Chronic Total Occlusions

Arteries may form bypass collateral system in CTOs.

Collaterals may not fully compensate and may result in:

- Severe Ischemia
- Loss of Limb



Prevalence of CTOs

- CTOs of the Superficial Femoral Artery (SFA) occur in up to 50% of patients presenting with symptoms of peripheral arterial disease.
- These patients often have coexistent cardiac and cerebrovascular disease which increases the 5-year mortality rate by:
 - 50% in patients with intermittent claudication
 - 60%-70% in patients with Critical Limb Ischemia (CLI)

Current Treatment Options for Peripheral CTO

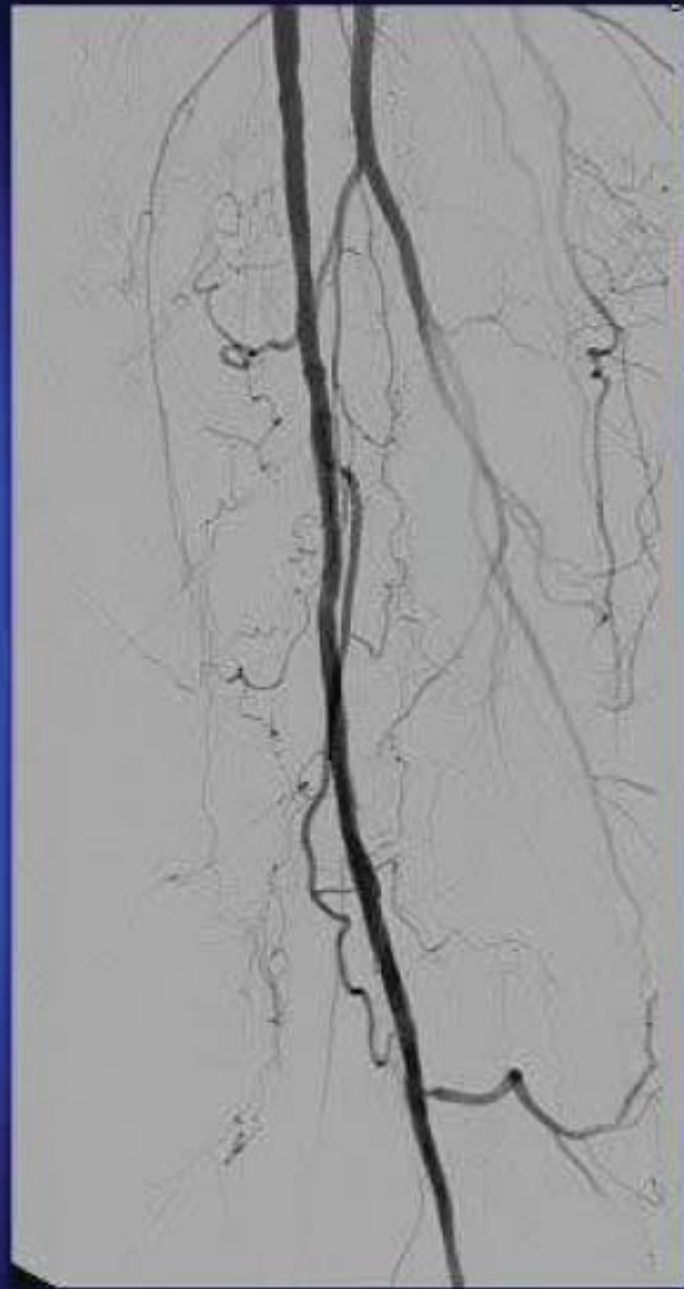
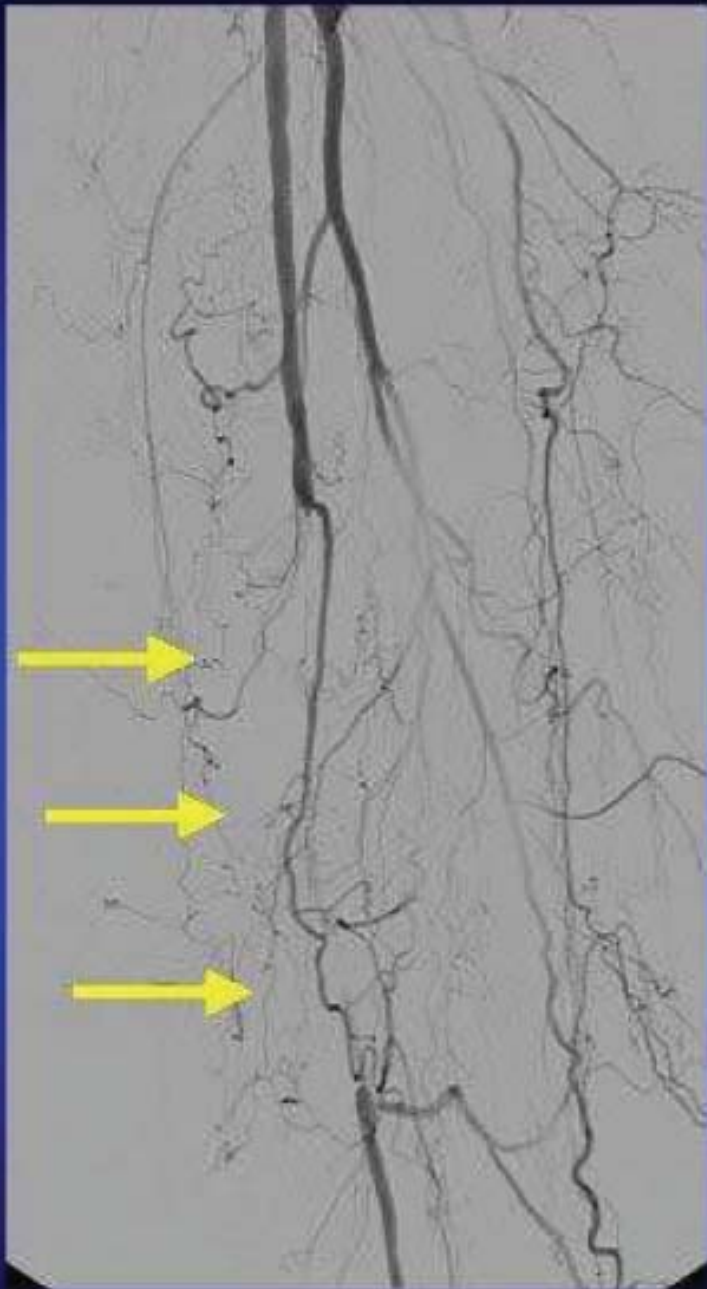
Exercise

**Endovascular/
Interventional
(percutaneous)**

Pharmacological

**Surgical
(open)**

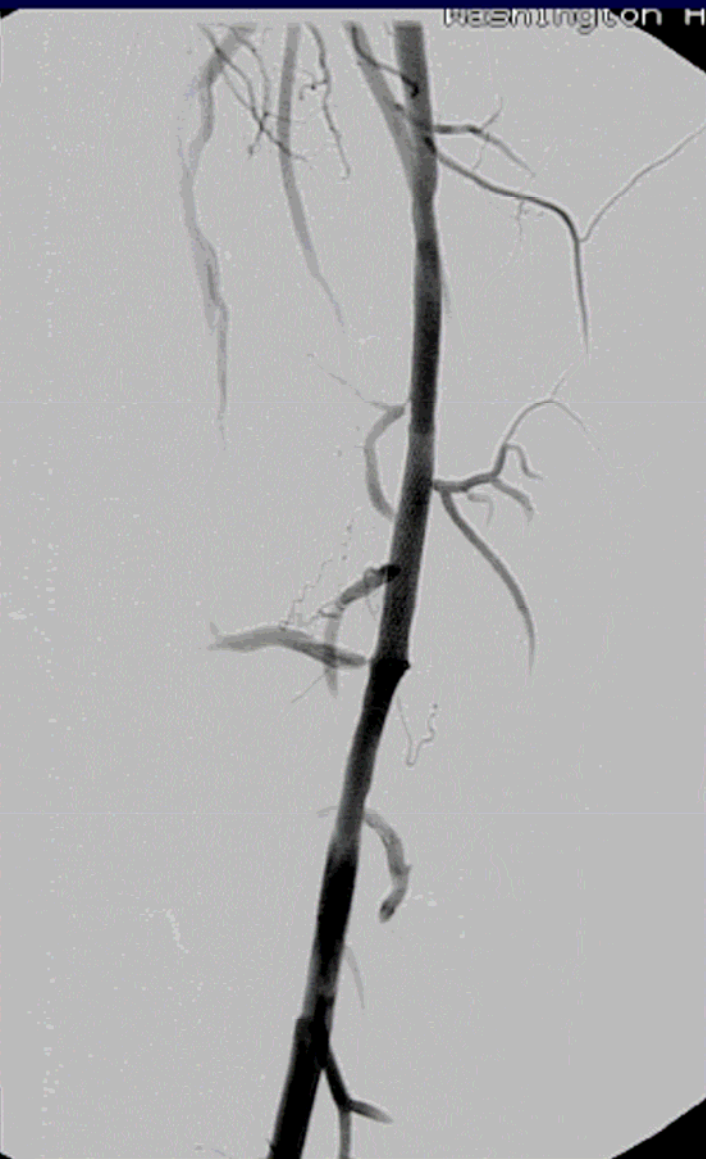
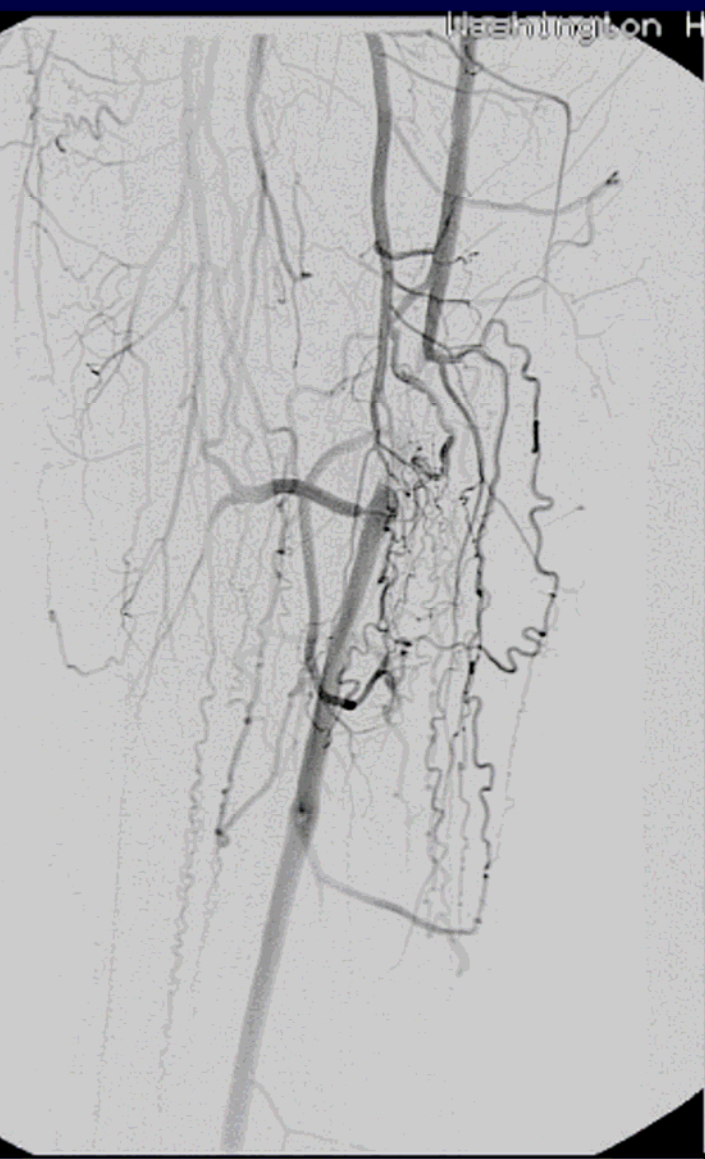




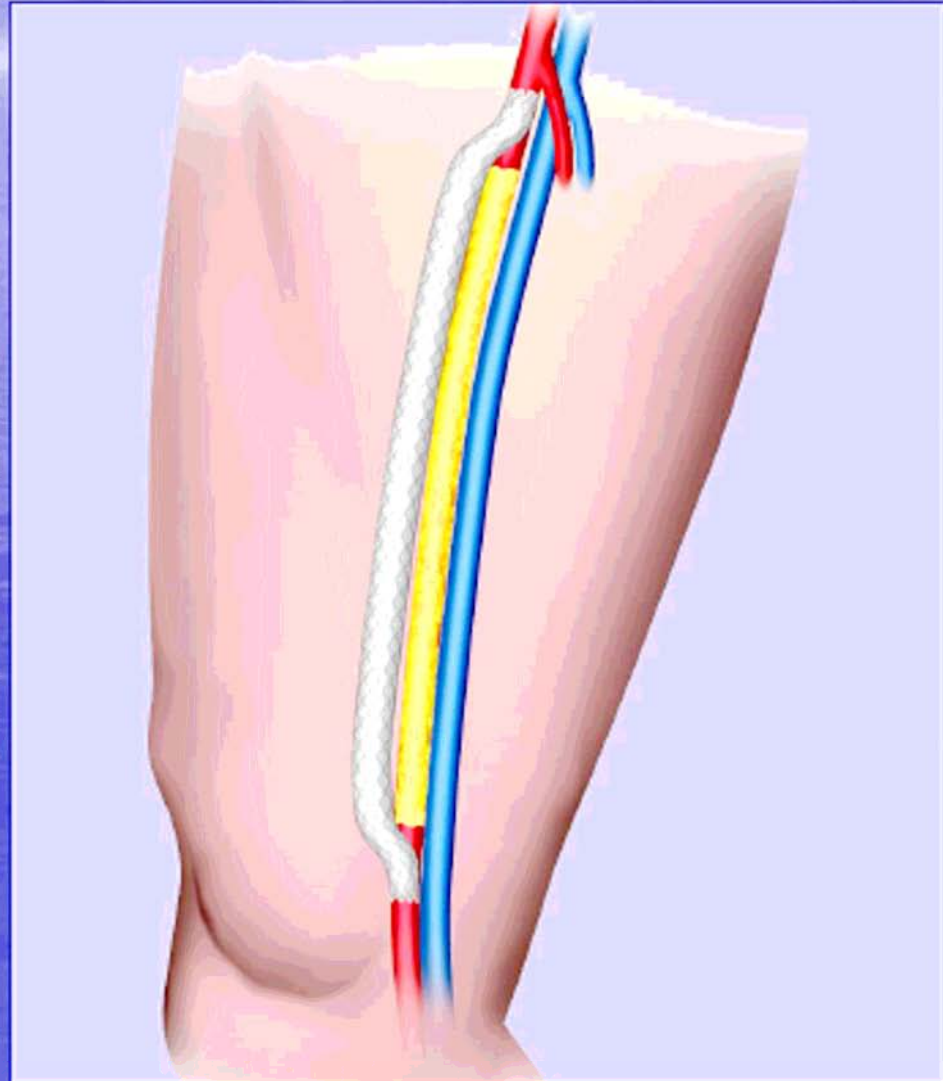
Femoropopliteal Angioplasty

Factors Influencing Success

- Presenting symptoms (claudication vs. limb threatening ischemia)
- Lesion length
- Occlusion vs. stenosis
- Status of run-off vessels
- Presence or absence of diabetes mellitus



Percutaneous Bypass



Morphological Stratification of FP Lesions

- TASC A
 - Single Stenosis < 3 cm
- TASC B
 - Single stenosis 3-10 cm not involving PA
 - Multiple lesions, each < 3 cm
 - Single or multiple lesions in the absence of continuous runoff to improve inflow for distal surgical bypass

Morphological Stratification of FP Lesions

- TASC C
 - Single Stenosis or occlusion > 5 cm
- TASC D
 - Complete common femoral artery or SFA occlusions or complete and proximal trifurcation occlusions

Management of PAD-TransAtlantic Inter-Society Consensus (TASC)
JVS 2000 31(1;2)

Current Diagnosis Coding Schema

440 Atherosclerosis

The current schema provides no visibility of CTO conditions, i.e. native arteries of the extremities with CTO.

Current Diagnosis Coding Schema

440 Atherosclerosis

440.0 Of aorta

440.1 Of renal

**440.2 Atherosclerosis of native arteries of the
extremities**

440.20 – unspecified

440.21 - with intermittent claudication

440.22 – with rest pain

440.23 – with ulceration

440.24 – with gangrene

440.3 Of bypass graft of the extremities

440.8 Of other specified arteries

440.9 Generalized and unspecified atherosclerosis

Request, Option 1 – 5-digits in 440.3 (w/o CTO)

440 Atherosclerosis

440.0 – Aorta

440.1 – Of renal artery

440.2 – Of native arteries of the extremities with chronic total occlusion

440.3 – Of native arteries of the extremities without chronic total occlusion

440.30, unspecified

440.31, intermittent claudication

440.32, rest pain

440.33, ulceration

440.34, gangrene

440.4 - Of bypass graft of the extremities (was 440.3)

440.8 – Of other specified arteries

Request, Option 2 – 5-digits in 440.2 (w/o CTO)

440 Atherosclerosis

440.0 – Aorta

440.1 – Of renal artery

440.2 – Of native arteries of the extremities without chronic total occlusion

440.20, unspecified

440.21, intermittent claudication

440.22, rest pain

440.23, ulceration

440.24, gangrene

440.3 – Of native arteries of the extremities with chronic total occlusion

440.4 - Of bypass graft of the extremities (was 440.3)

440.8 – Of other specified arteries