De (on) mogelijkheden van vaatchirurgie

Willem-Jan de Jong

Vaatchirurg Haaglanden Medisch Centrum

Waarom vaatchirurgie?

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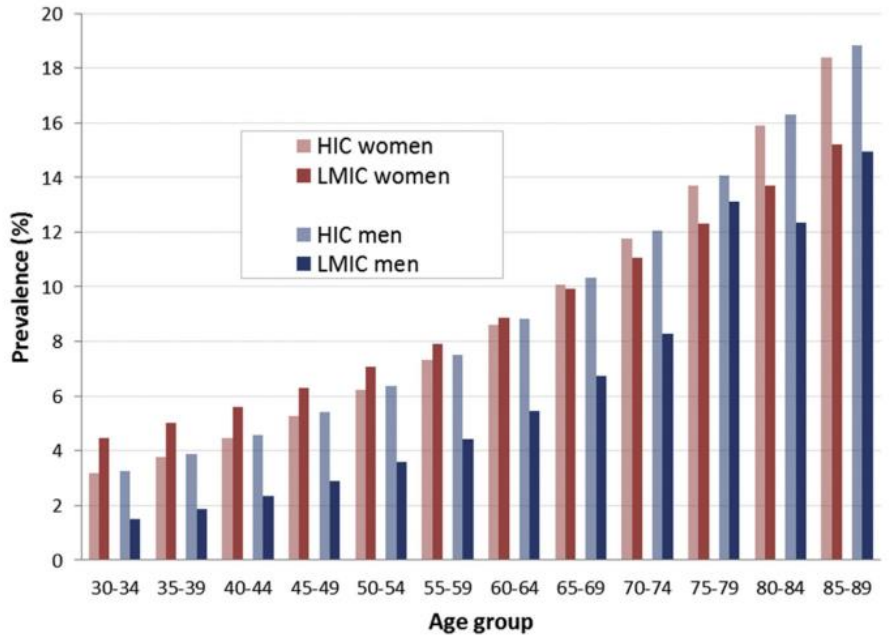
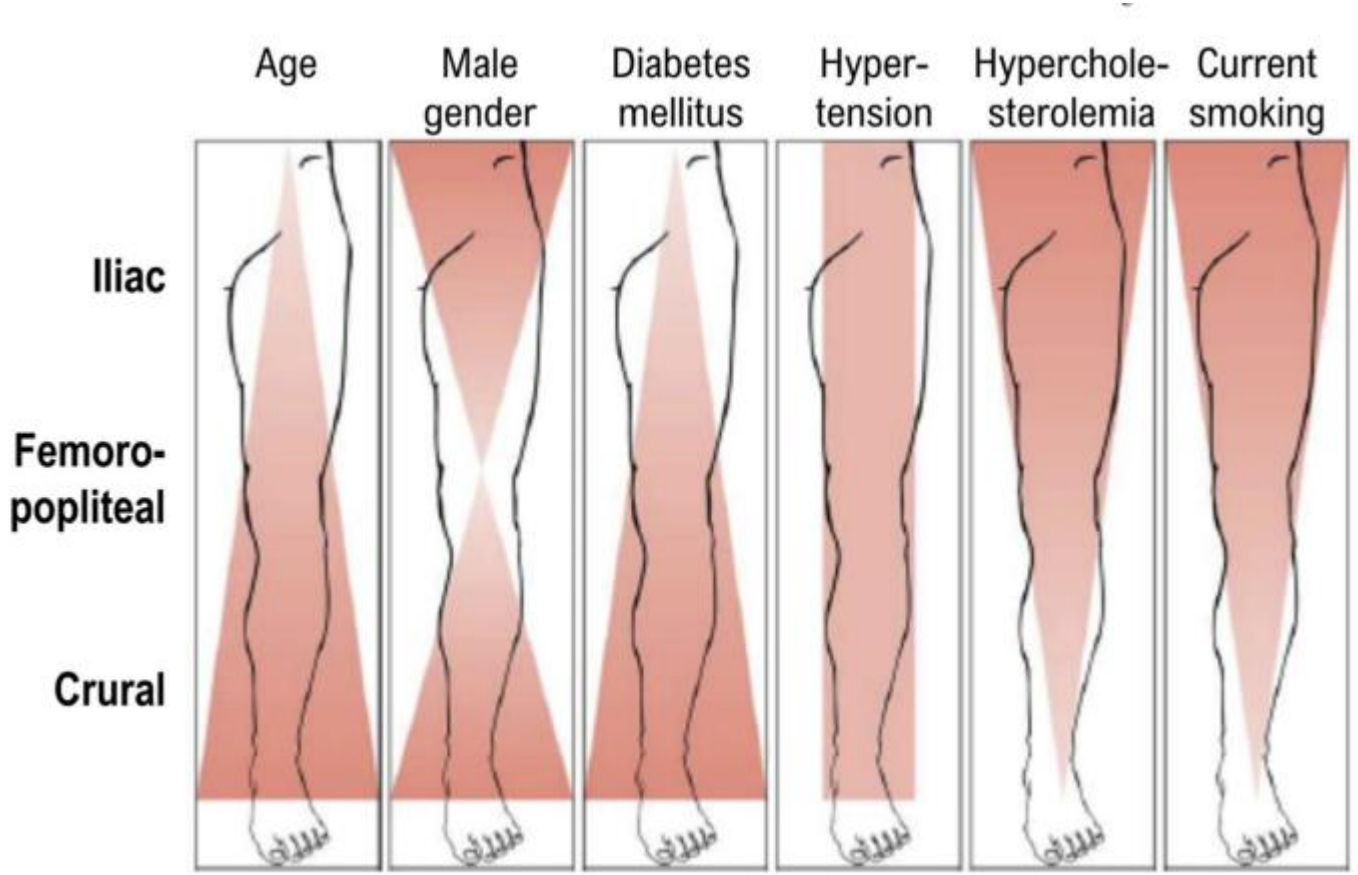


Fig 2.1.
Prevalence of peripheral artery disease (PAD; ankle-brachial index [ABI] <0.9) by age and sex in high-income countries (*HICs*) and in low- and middle-income countries (*LMICs*).[1]



WIFI

Table 2 Wound, Ischaemia, foot Infection (WIfI) scoring classification system

Wound		
Ulcer	Gangrene	score
No ulcer	None	0
Small shallow (subcutaneous)	None	1
Deeper (tendon or muscle)	Gangrenous changes to limited digits	2
Extensive (extending to bone)	Extensive gangrene	3

Ischaemia			
ABPI	Toe pressure	Ankle systolic pressure	score
≥0.8	≥60 mmHg	>100 mmHg	0
0.79–0.6	40–50 mmHg	70–100 mmHg	1
0.59–0.4	30–39 mmHg	50–70 mmHg	2
≤0.39	<30 mmHg	<50 mmHg	3

Foot infection	
Ulcer	score
No signs or symptoms of infection	0
Local infection involving skin and subcutaneous tissue only (<2 cm erythema)	1
Local infection involving deeper structures or with >2 cm erythema (ie, osteomyelitis)	2
As above with SIRS response	3

This table shows the WIfI classification scoring system derived from Mills *et al.*[4]

a, Estimate risk of amputation at 1 year for each combination

	Ischemia – 0				Ischemia – 1				Ischemia – 2				Ischemia – 3			
W-0	VL	VL	L	M	VL	L	M	H	L	L	M	H	L	M	M	H
W-1	VL	VL	L	M	VL	L	M	H	L	M	H	H	M	M	H	H
W-2	L	L	M	H	M	M	H	H	M	H	H	H	H	H	H	H
W-3	M	M	H	H	H	H	H	H	H	H	H	H	H	H	H	H
	fI-0	fI-1	fI-2	fI-3	fI-0	fI-1	fI-2	fI-3	fI-0	fI-1	fI-2	fI-3	fI-0	fI-1	fI-2	fI-3

b, Estimate likelihood of benefit of/requirement for revascularization (assuming infection can be controlled first)

	Ischemia – 0				Ischemia – 1				Ischemia – 2				Ischemia – 3			
W-0	VL	VL	VL	VL	VL	L	L	M	L	L	M	M	M	H	H	H
W-1	VL	VL	VL	VL	L	M	M	M	M	H	H	H	H	H	H	H
W-2	VL	VL	VL	VL	M	M	H	H	H	H	H	H	H	H	H	H
W-3	VL	VL	VL	VL	M	M	M	H	H	H	H	H	H	H	H	H
	f-0	fI-1	fI-2	fI-3	fI-0	fI-1	fI-2	fI-3	fI-0	fI-1	fI-2	fI-3	fI-0	fI-1	fI-2	fI-3

fI, foot Infection; I, Ischemia; W, Wound.

Very low = VL = clinical stage 1
Low = L = clinical stage 2
Moderate = M = clinical stage 3
High = H = clinical stage 4
Clinical stage 5 would signify an unsalvageable foot

Global **L**imb **A**natomic **S**taging **S**ystem (GLASS)

PLAN

-**P**atiënt risico	laag/gemiddeld/hoog
-Status **L**edemaat (WIFI)	1-4
-**An**atomie afwijking (GLASS)	1-3

Vascular Quality Initiative (VQI)

Calculator | About | References

Questions

1.	What is the patient's age?	74 Years
2.	What is the patient's race?	Non-white
3.	What is the indication for revascularization?	Tissue loss
4.	Does the patient have CAD?	History of MI, asympto...
5.	Does the patient have CHF?	No
6.	Does the patient have COPD?	No
7.	Does the patient have chronic kidney diseas...	Yes, stage 3, eGFR 30-...
8.	What is the patient's preoperative ambulati...	Independent
9.	Is the patient on a statin preoperatively?	Yes
10.	Does the patient have a smoking history?	Former
11.	Is the patient on an antiplatelet preoperativ...	Yes
12.	Is the patient on a beta blocker preoperativ...	Yes

The 30 day probability of survival

99%

The 2 year probability of survival

87%

Final Score

Low risk

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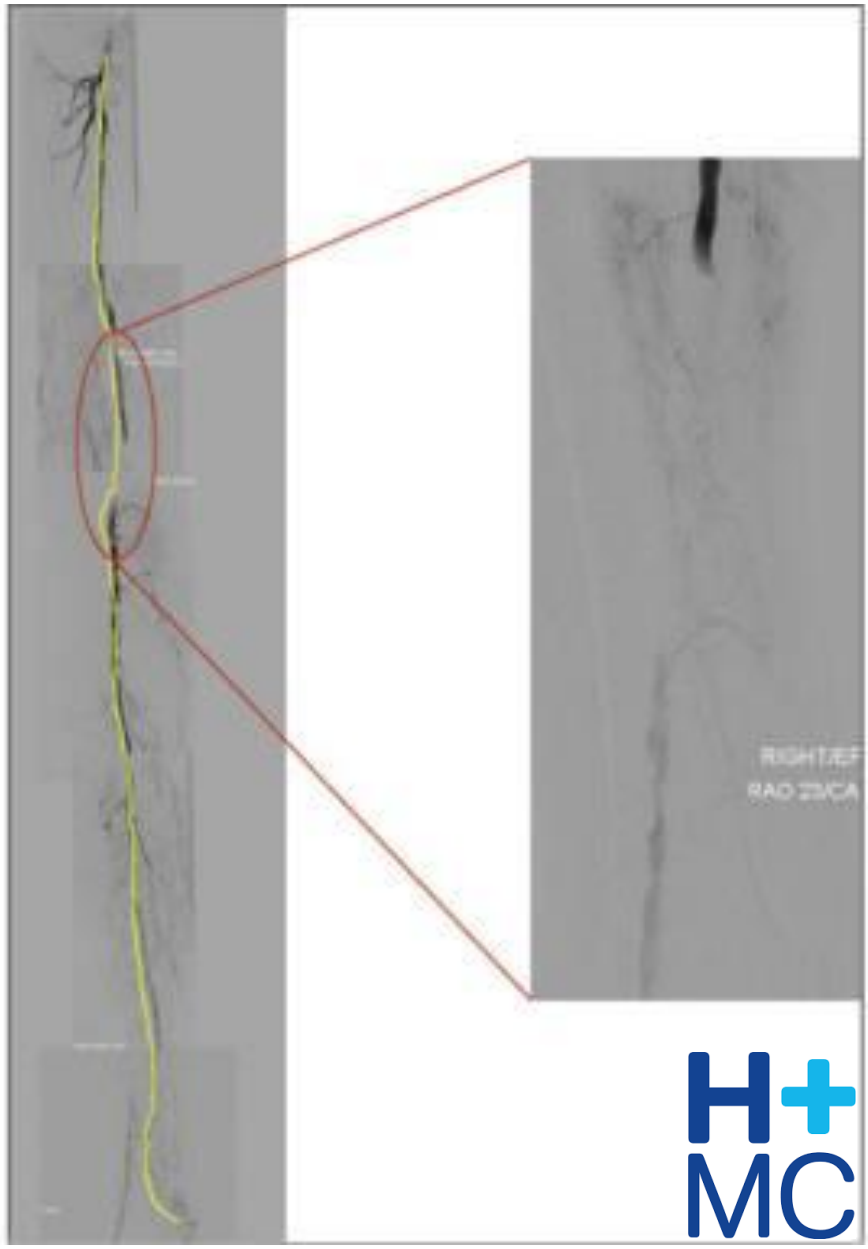
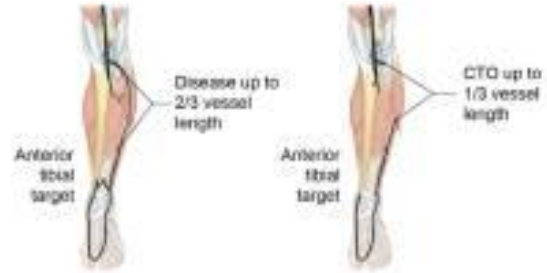
GLASS

- Target Artery Path (TAP)



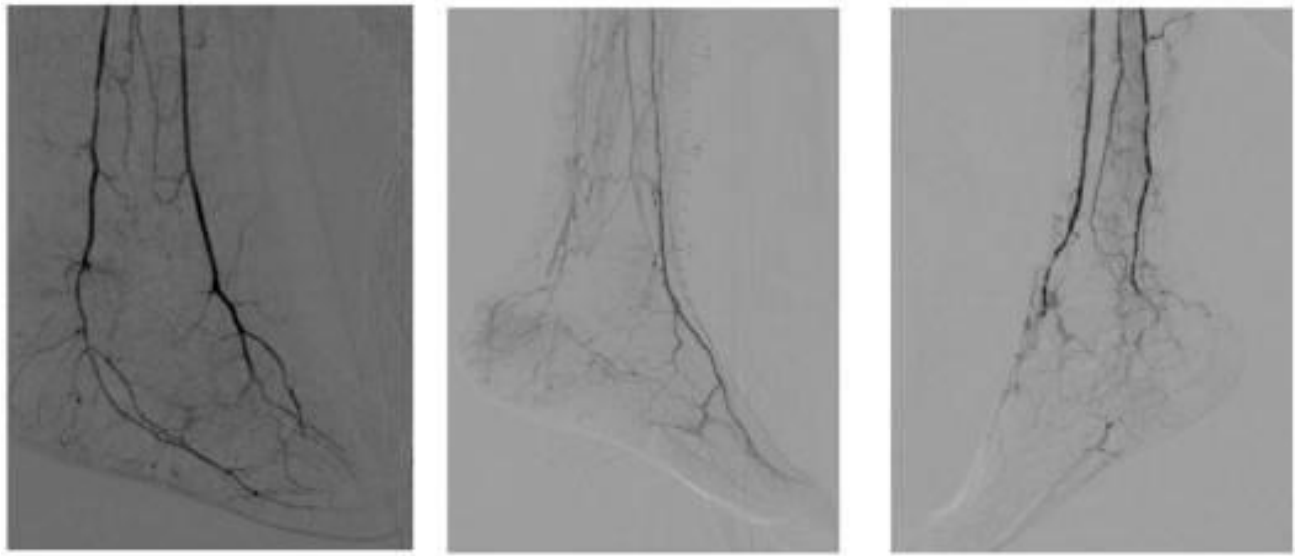
0	Mild or no significant (<50%) disease	
1	• Total length SFA disease <1/3 (<10 cm) • May include single focal CTO (< 5 cm) as long as not flush occlusion • Popliteal artery with mild or no significant disease	
2	• Total length SFA disease 1/3-2/3 (10-20 cm) • May include CTO totaling < 1/3 (10 cm) but not flush occlusion • Focal popliteal artery stenosis <2 cm, not involving trifurcation	
3	• Total length SFA disease >2/3 (>20 cm) length • May include any flush occlusion <20 cm or non-flush CTO 10-20 cm long • Short popliteal stenosis 2-5 cm, not involving trifurcation	
4	• Total length SFA occlusion > 20 cm • Popliteal disease >5 cm or extending into trifurcation • Any popliteal CTO	

0	• Mild or no significant disease in the primary target artery path	
1	• Focal stenosis of tibial artery < 3cm	
2	• Stenosis involving 1/3 total vessel length • May include focal CTO (<3 cm) • Not including TP trunk or tibial vessel origin	
3	• Disease up to 2/3 vessel length • CTO up to 1/3 length (may include tibial vessel origin but not tibioperoneal trunk)	
4	• Diffuse stenosis > 2/3 total vessel length • CTO > 1/3 vessel length (may include vessel origin) • Any CTO of tibioperoneal trunk if AT is not the target artery	

GLASS

- Ernstig verkalkte stenosen of occlusies= +1 per segment

Infra-malleolar/Pedal descriptor	
P0	Target artery crosses ankle into foot, with intact pedal arch
P1	Target artery crosses ankle into foot; absent or severely diseased pedal arch
P2	No target artery crossing ankle into foot



P0 P1 P2

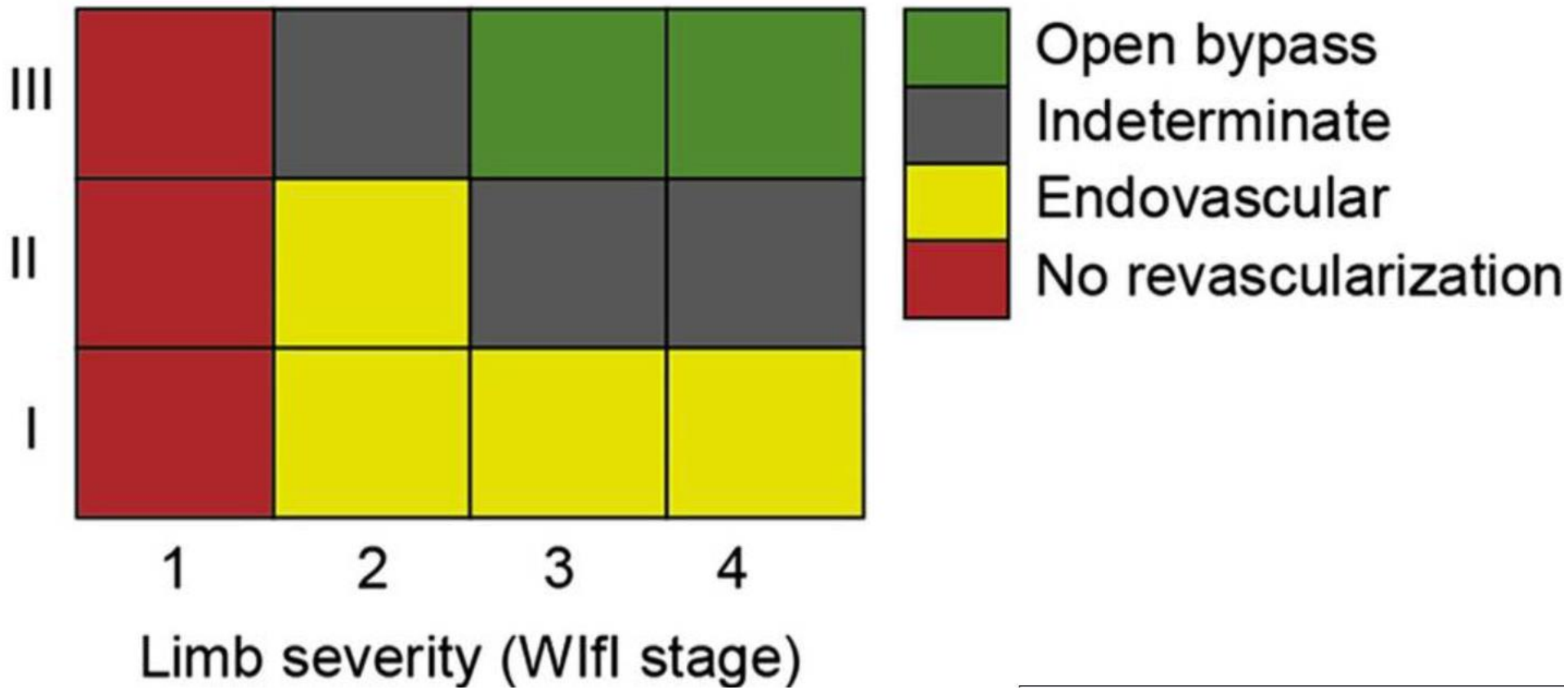
Table 2

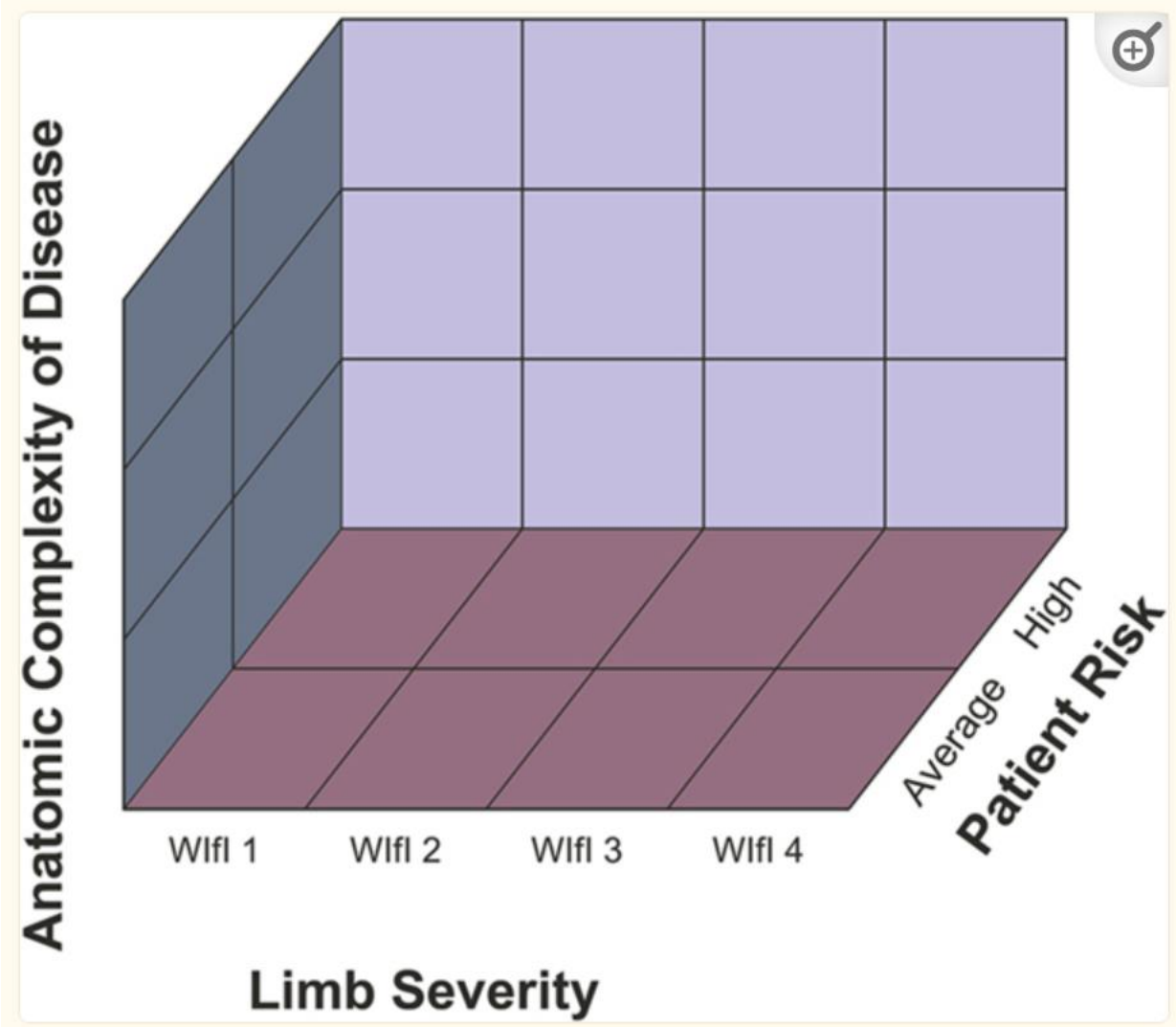
GLASS stages based on FP and IP grade.

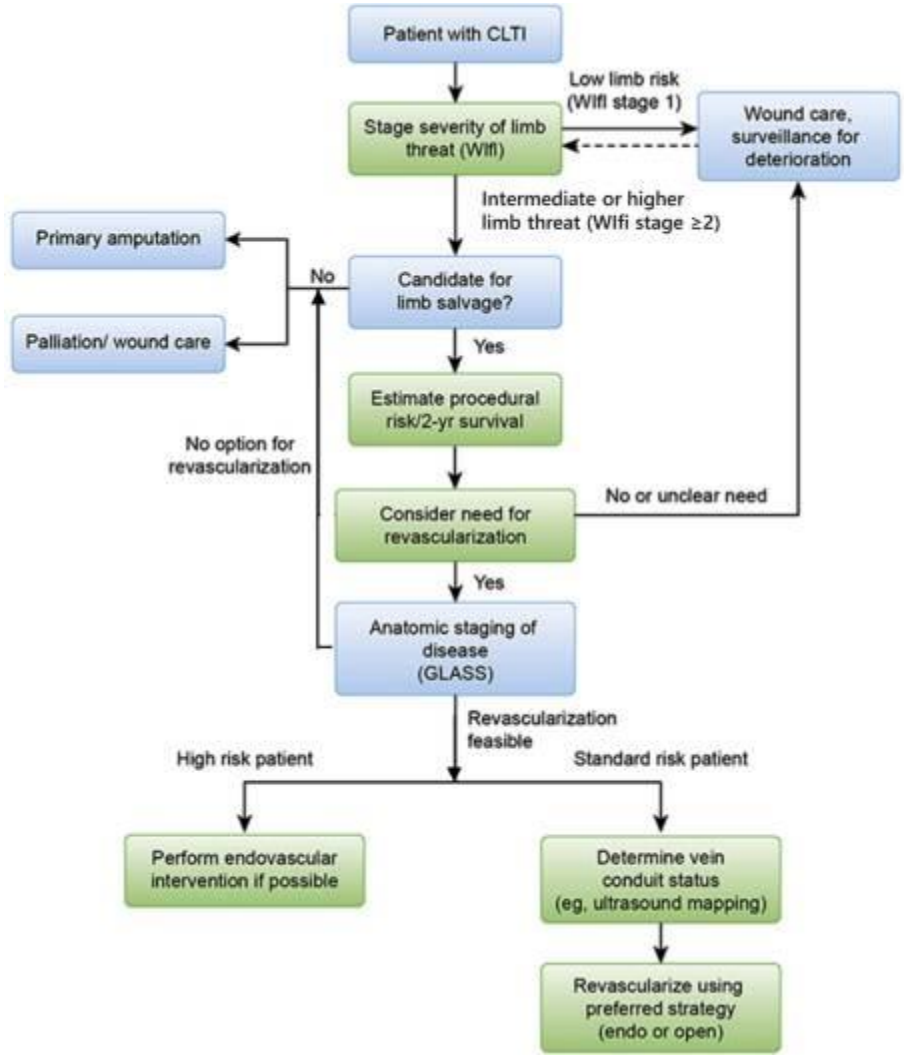
		Infrainguinal GLASS Stage				
FP Grade	4	III	III	III	III	III
	3	II	II	II	III	III
	2	I	II	II	II	III
	1	I	I	II	II	III
	0	NA	I	I	II	III
		0	1	2	3	4
		IP Grade				

FP = femoropopliteal, IP = infra-popliteal.

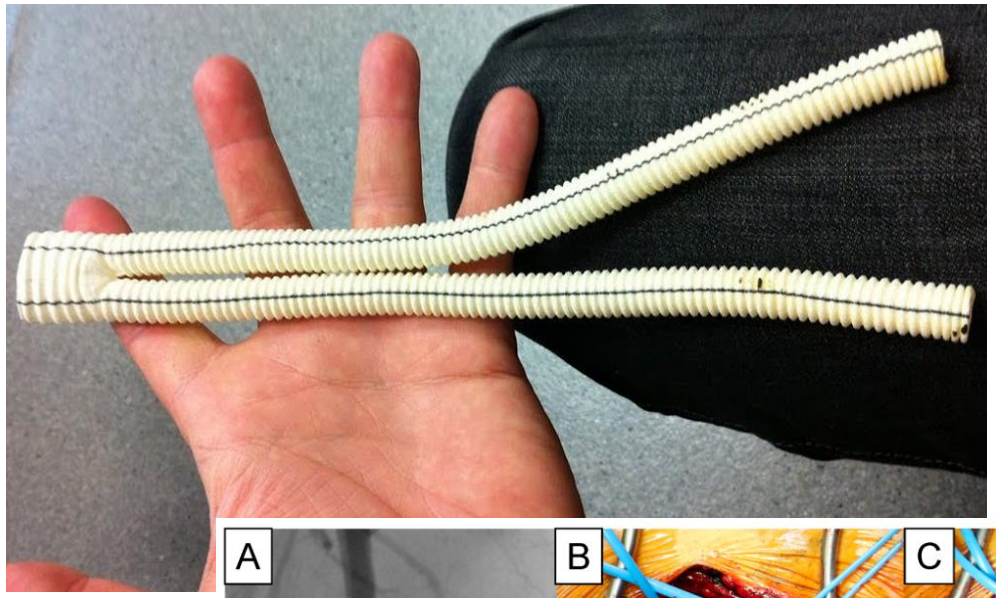
- Stage I: Average Complexity Disease: technical failure <10% >70% 12-month LBP
- Stage II: Intermediate Complexity Disease: technical failure <20% 50-70% 12-month LBP
- Stage III: High Complexity Disease: technical failure >20% <50% 12-month LBP

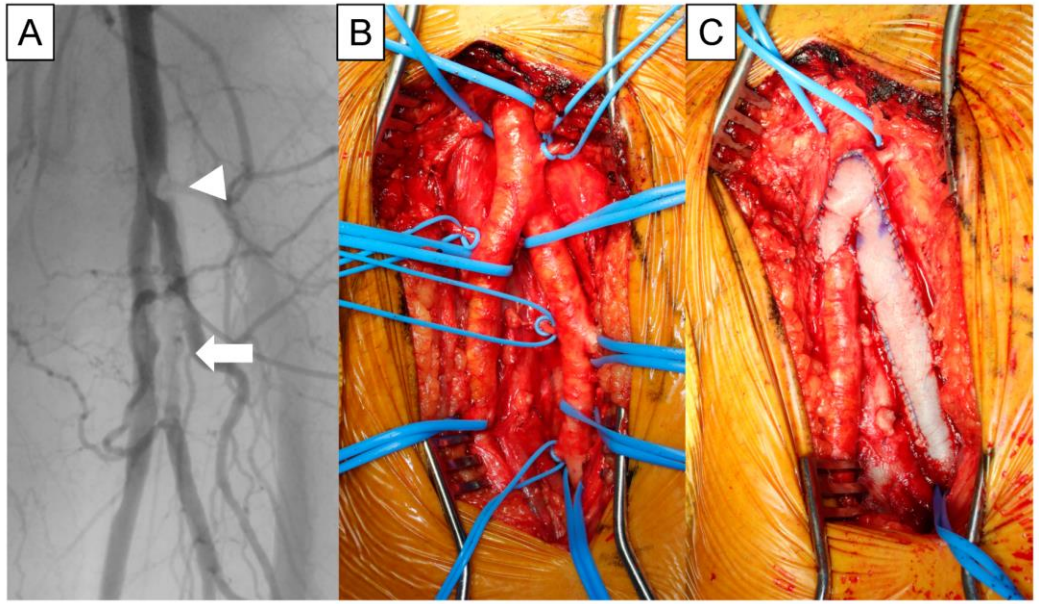

III
II
I
1
2
3
4
Limb severity (WIfI stage)
Open bypass
Indeterminate
Endovascular
No revascularization

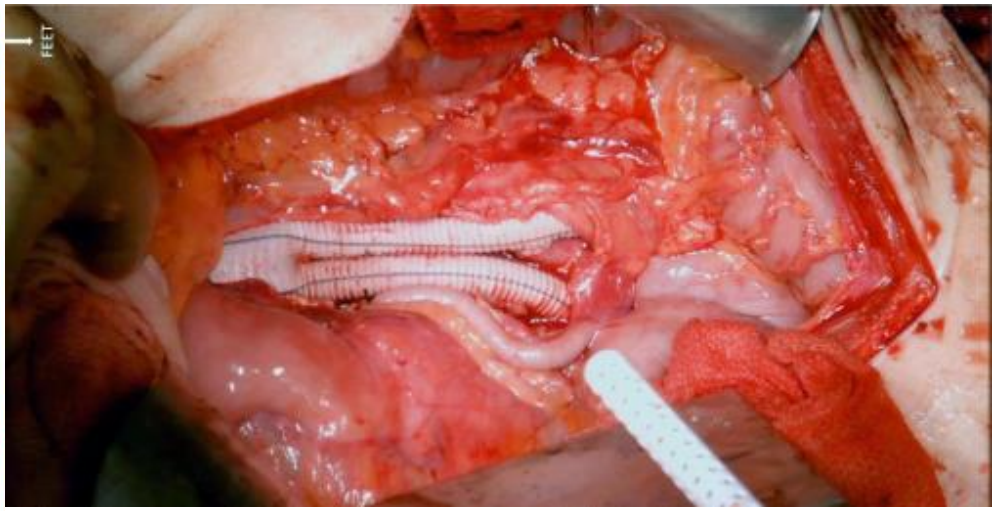

Anatomic Complexity of Disease
WIfI 1
WIfI 2
WIfI 3
WIfI 4
Limb Severity
Average
High
Patient Risk


Patient with CLTI
Stage severity of limb threat (WIfI)
Low limb risk (WIfI stage 1)
Wound care, surveillance for deterioration
Intermediate or higher limb threat (WIfI stage ≥2)
Primary amputation
Palliation/ wound care
No
Candidate for limb salvage?
Yes
Estimate procedural risk/2-yr survival
No option for revascularization
Consider need for revascularization
No or unclear need
Yes
Anatomic staging of disease (GLASS)
Revascularization feasible
High risk patient
Standard risk patient
Perform endovascular intervention if possible
Determine vein conduit status (eg, ultrasound mapping)
Revascularize using preferred strategy (endo or open)

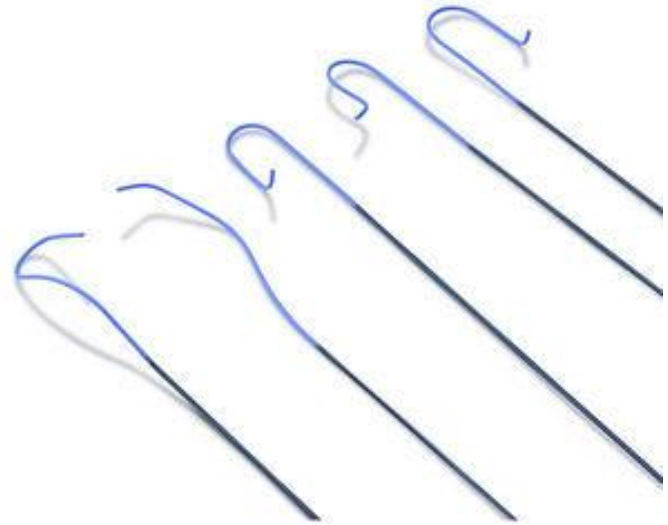
Open chirurgie

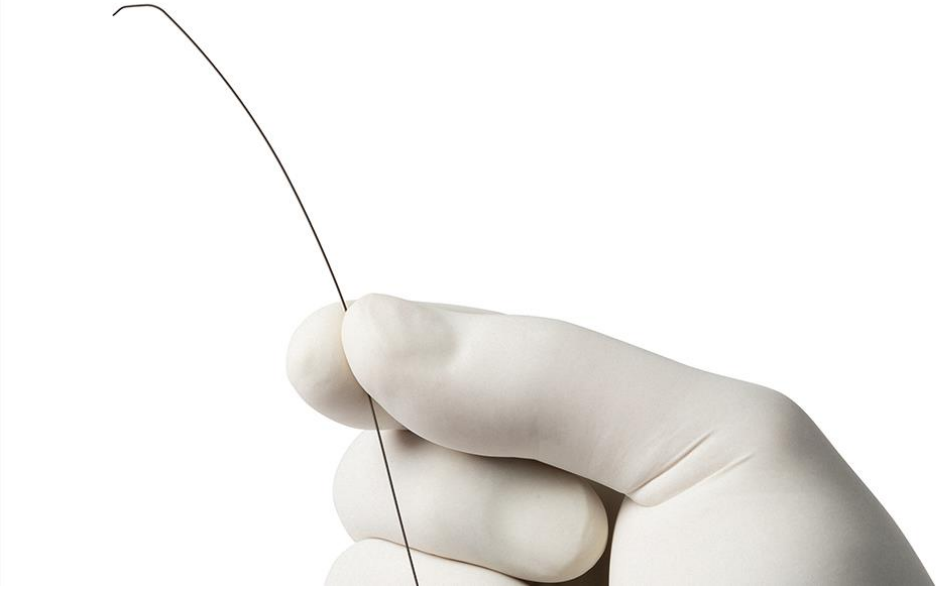




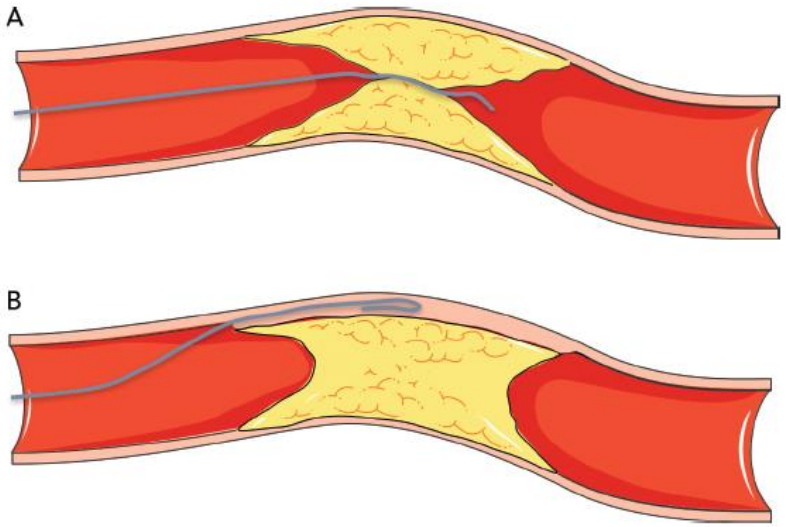


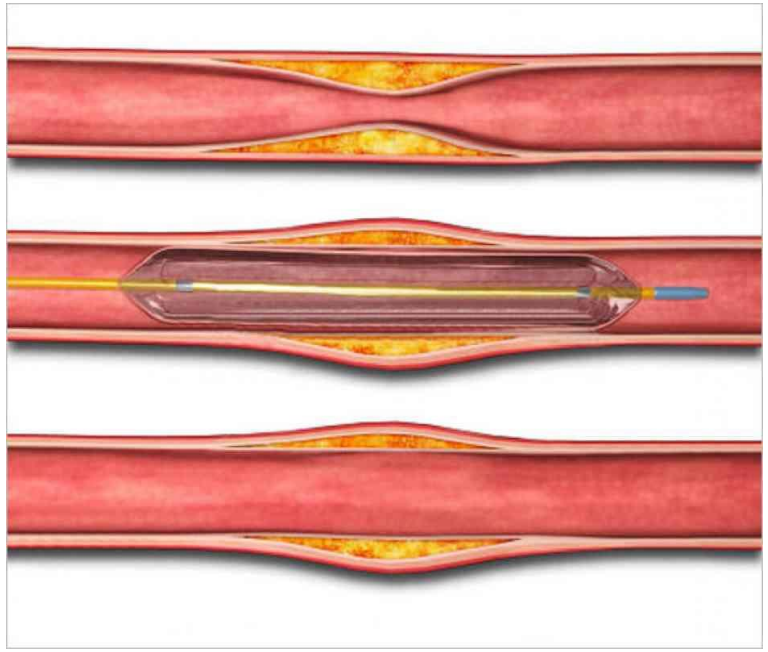
Endovasculaire chirurgie

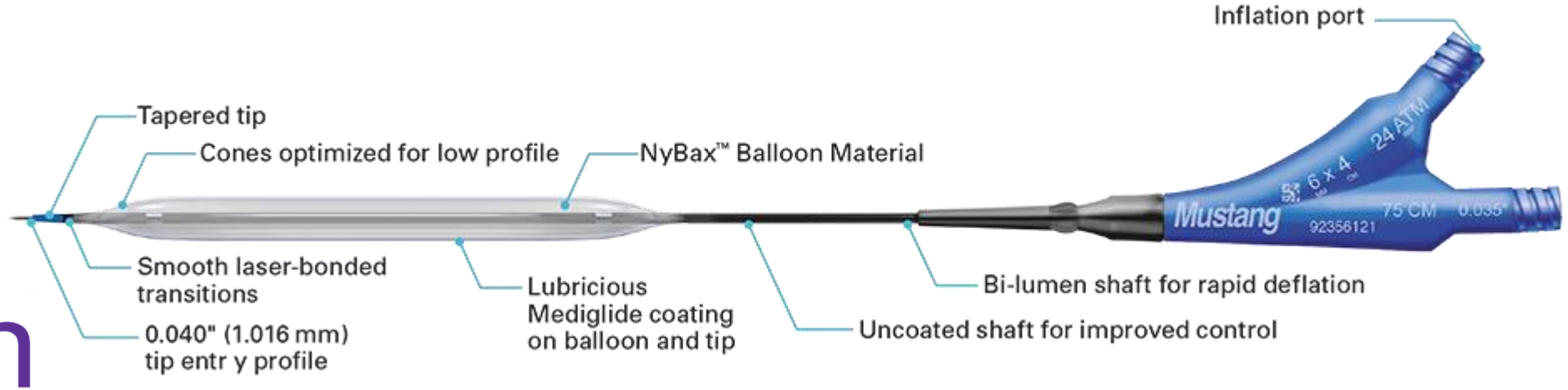




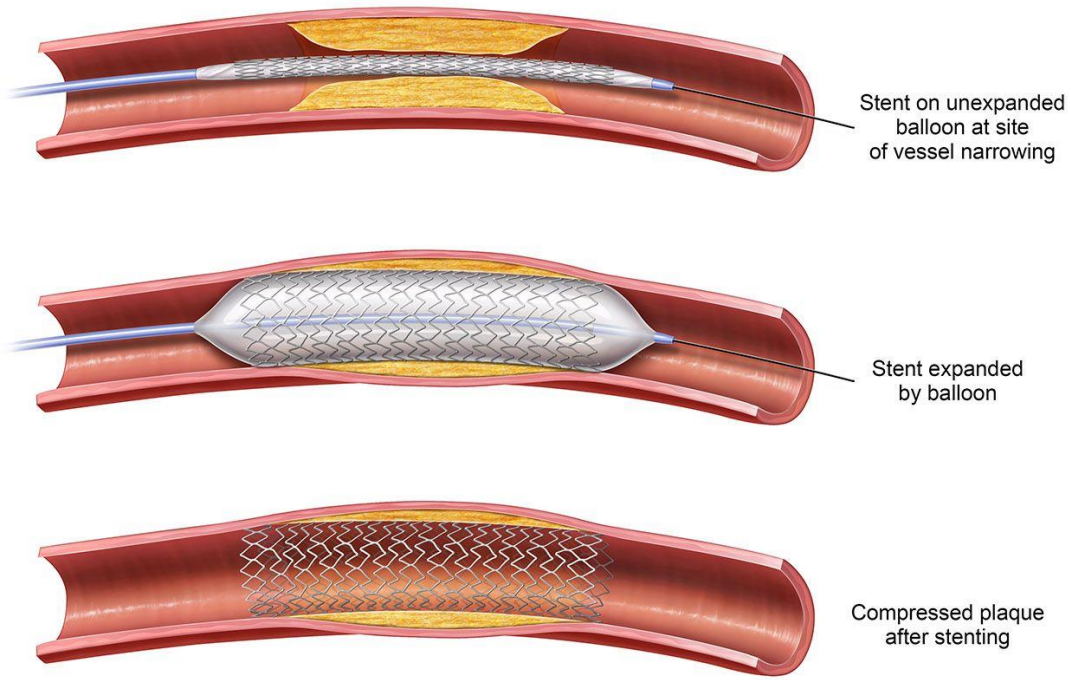
Endovasculaire chirurgie

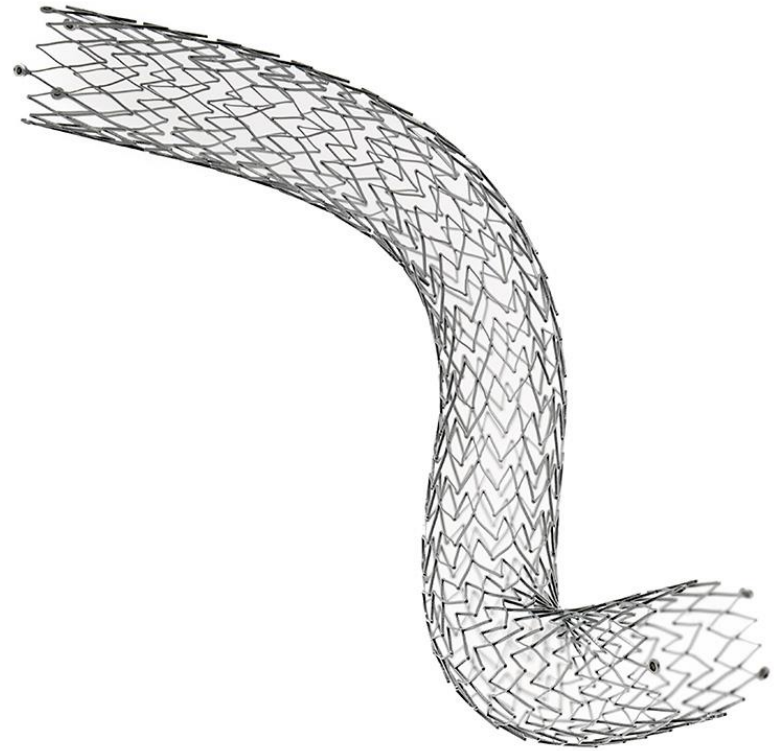




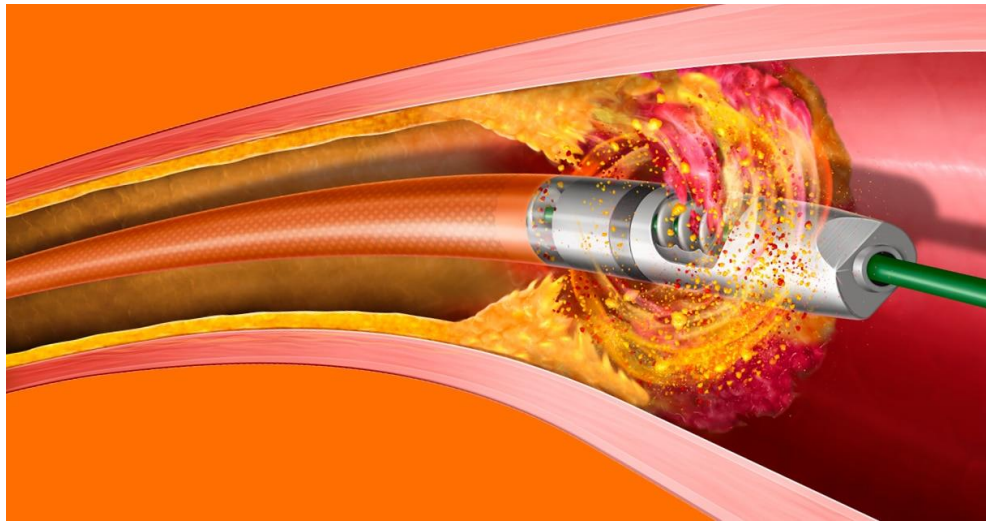


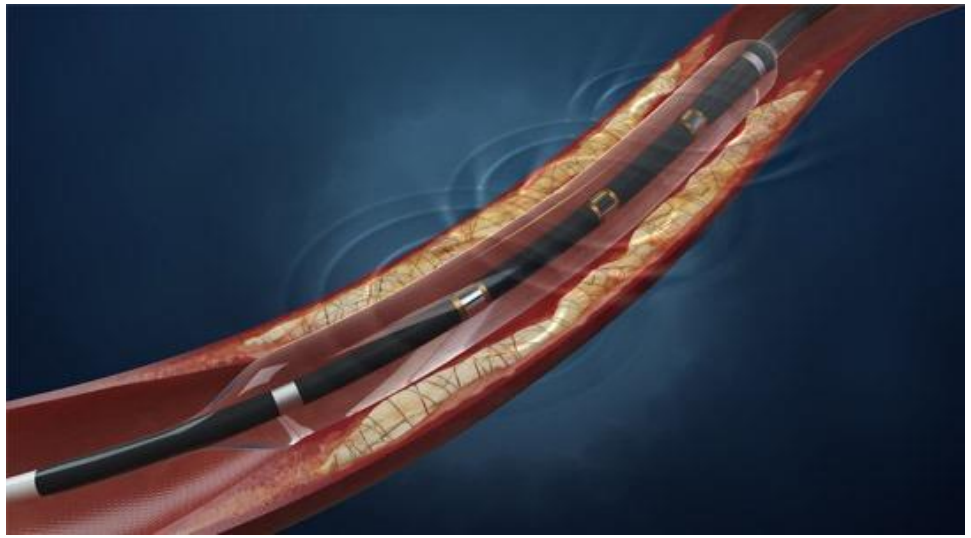
Endovasculaire chirurgie

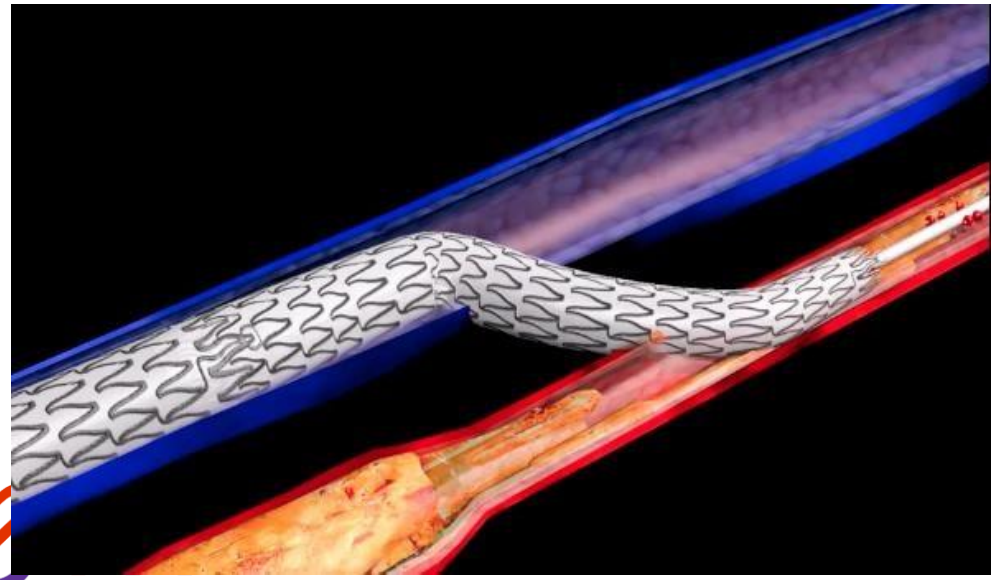


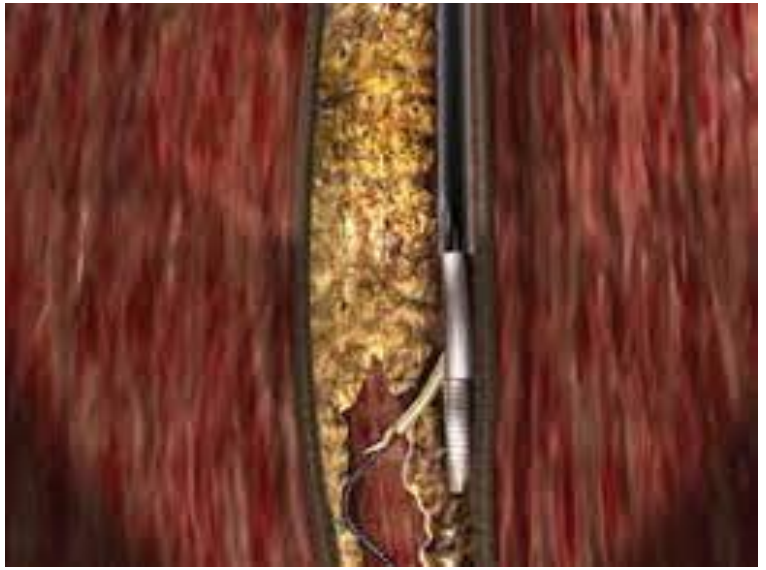


Endovasculaire chirurgie









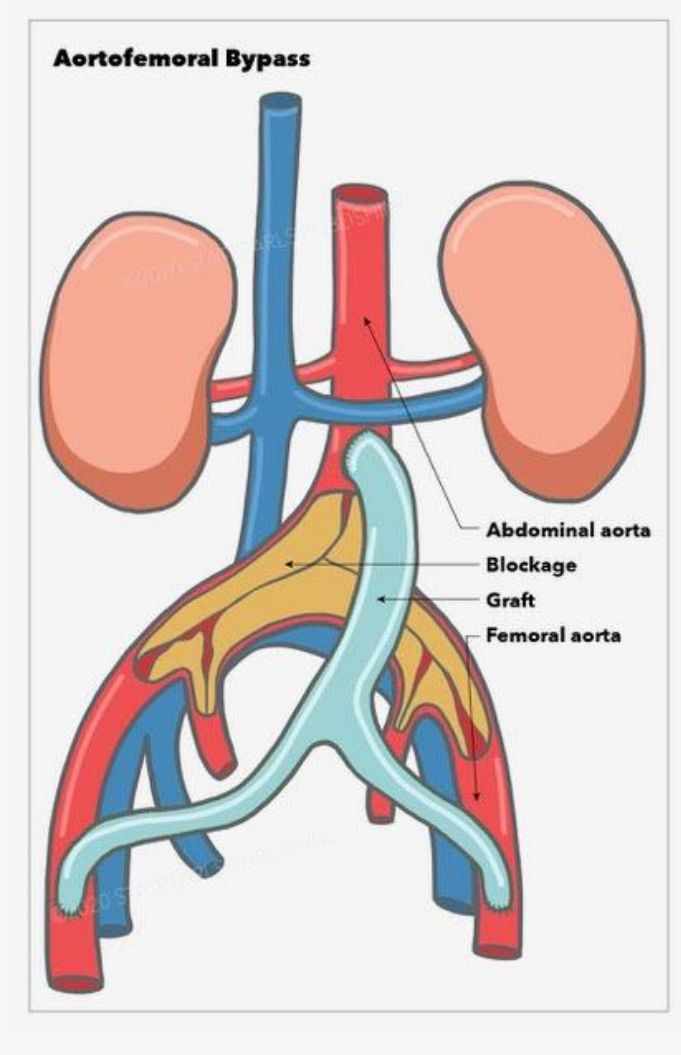
Hybride chirurgie

Casus centraal vaatlijden 25737113

- Man, 70 jaar
- VG Hypertensie
- A Pijn bij het lopen na 50m bdz en nachtpijn, slaapt slecht.
- LO Bdz geen palpabele pulsaties, blauwe tenen, geen wond
- AO EAI li 0,34 re 0,24

CTA

Aorto-bifemorale bypass vs CERAB

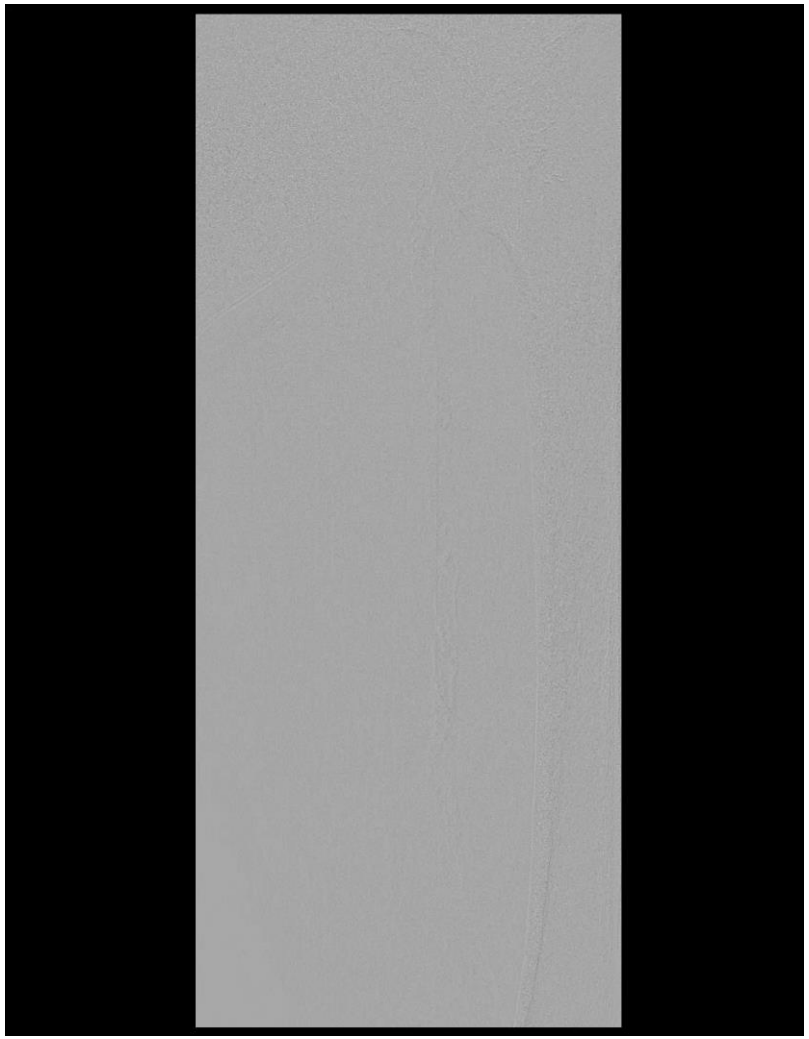


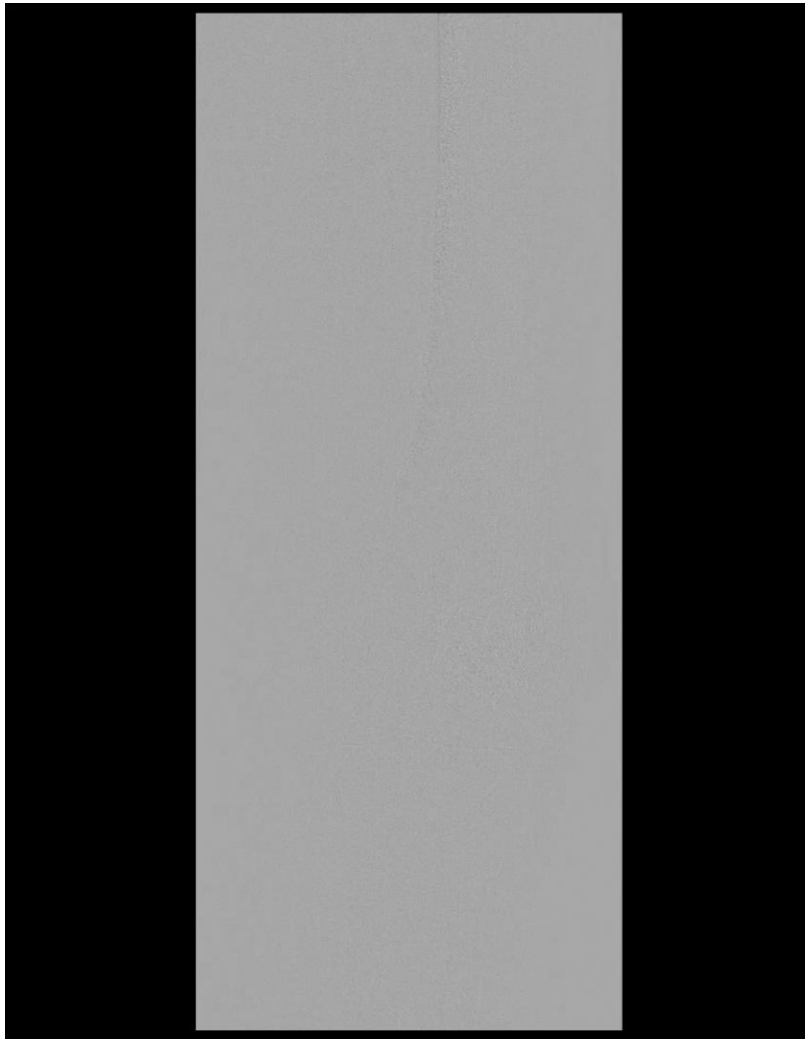
Casus femoropopliteal vaatlijden 29101172

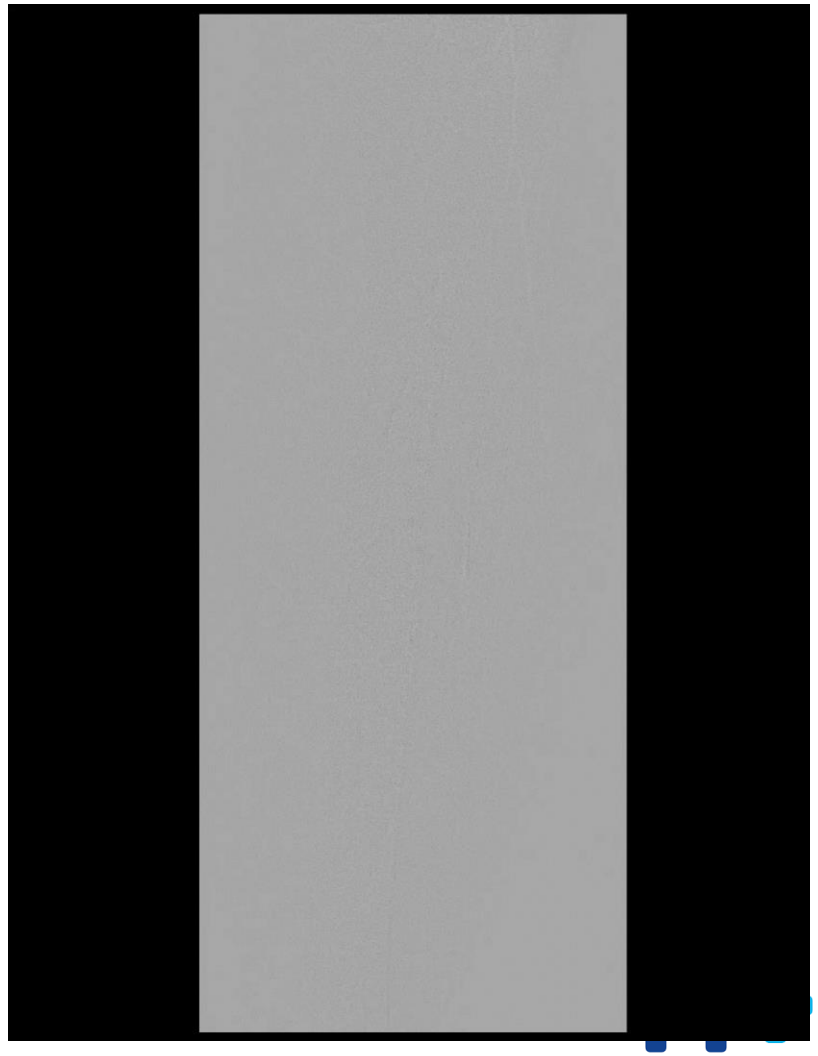
- Vrouw, 85 jaar
- VG Hypertensie, DVT, cardiomyopathie, TEA AFC links + stent iliacaal
- A Veel pijn linker voet met progressieve wond
- LO Droge necrose dorsum voet
- AO EAI li 0,44 re 0,68

CTA

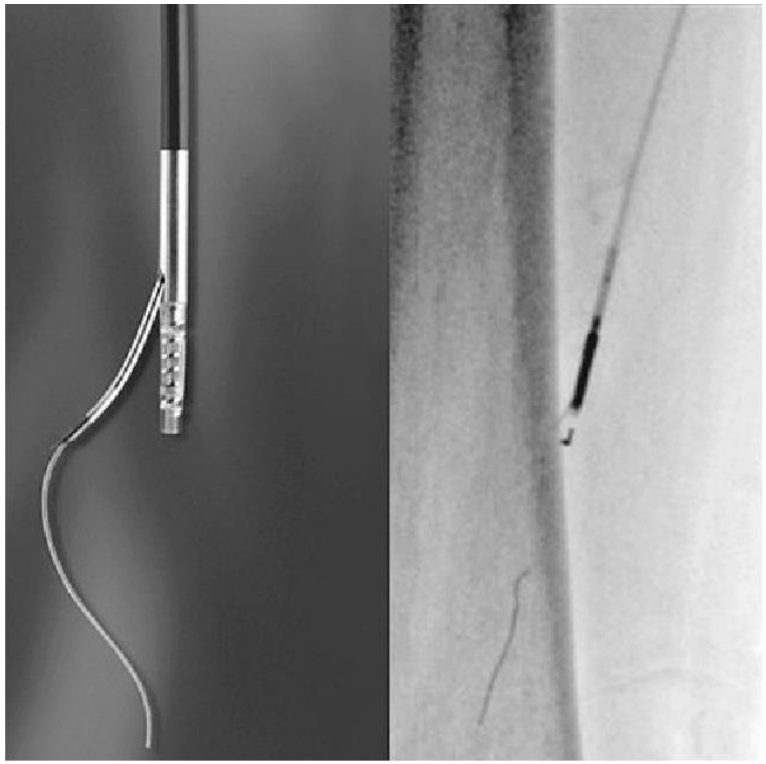
PTA AFS

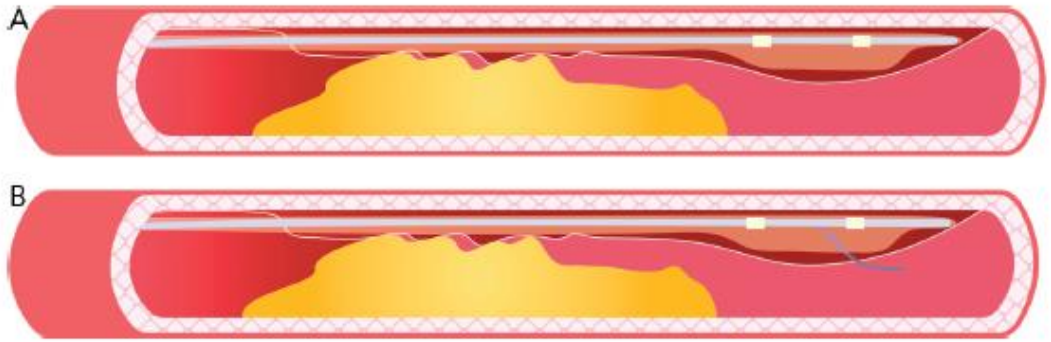






PTA AFS



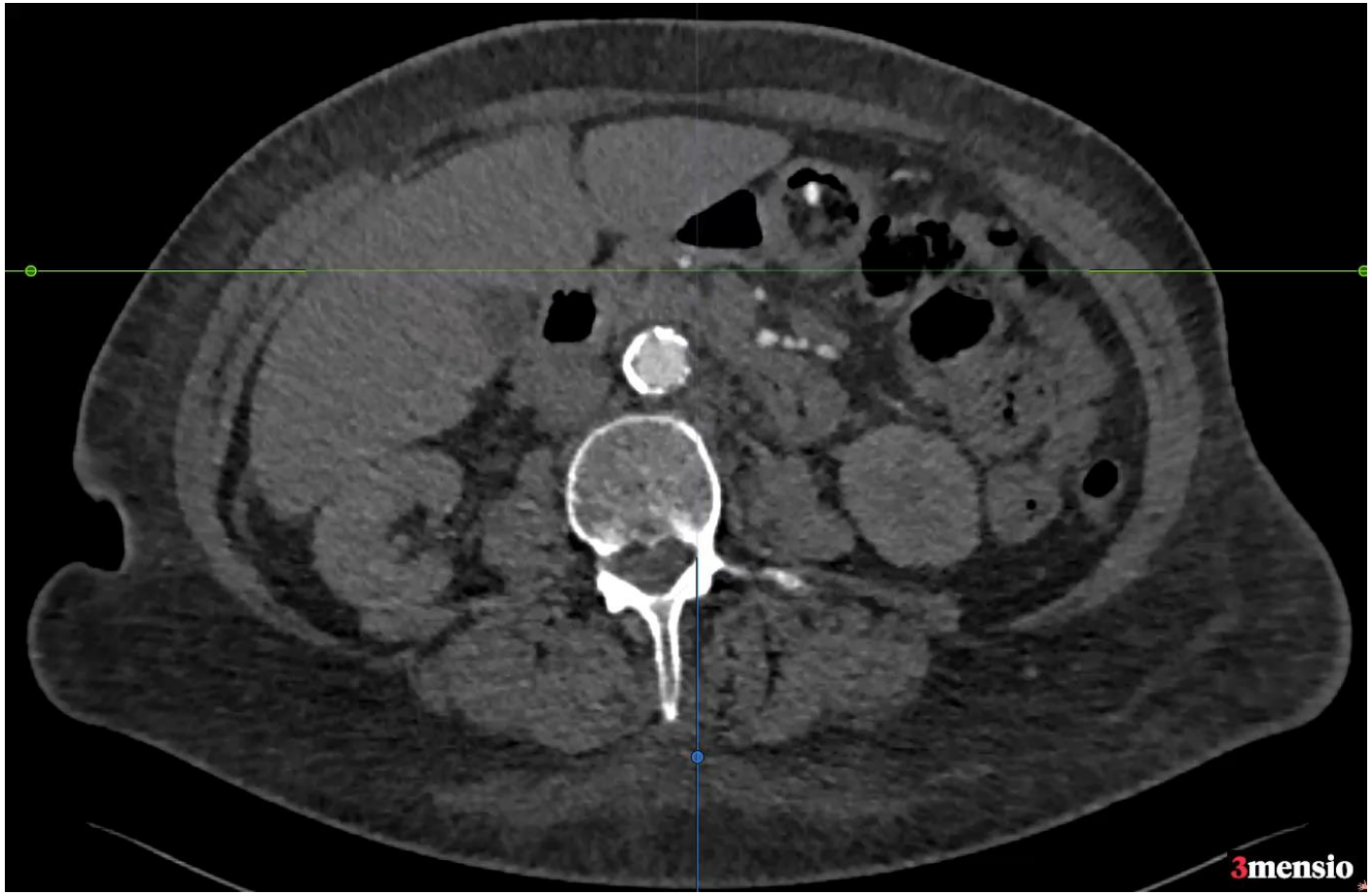


PTA AFS

Casus cruraal/pedaal vaatlijden 14250705

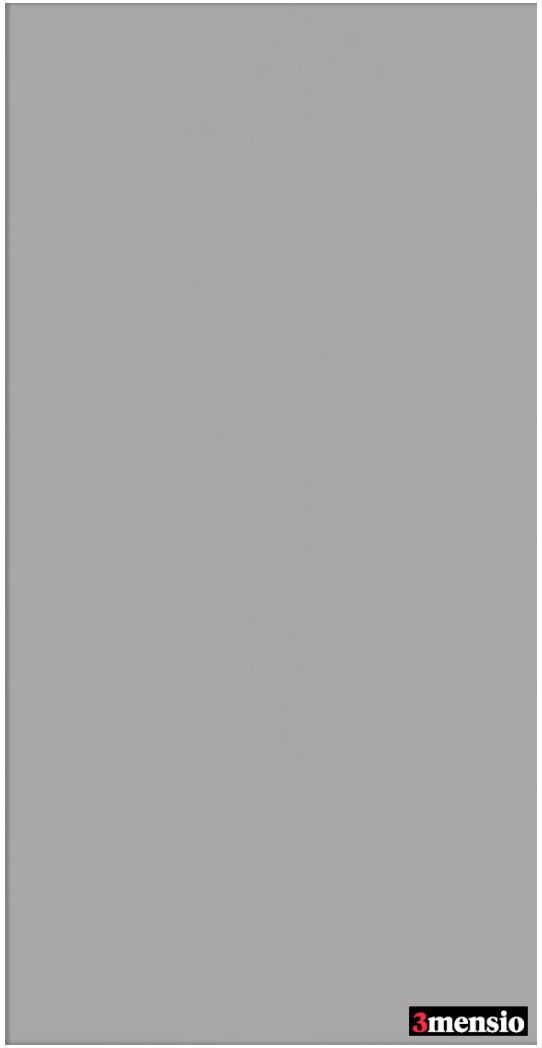
- Vrouw, 63j
- VG COPD GOLD IV, pulmonale hypertensie
- A Sinds 6 weken pijn, zwelling aan de voet
- LO Fors oedeem, natte necrose dig 5, cellulitis voorvoet

CTA

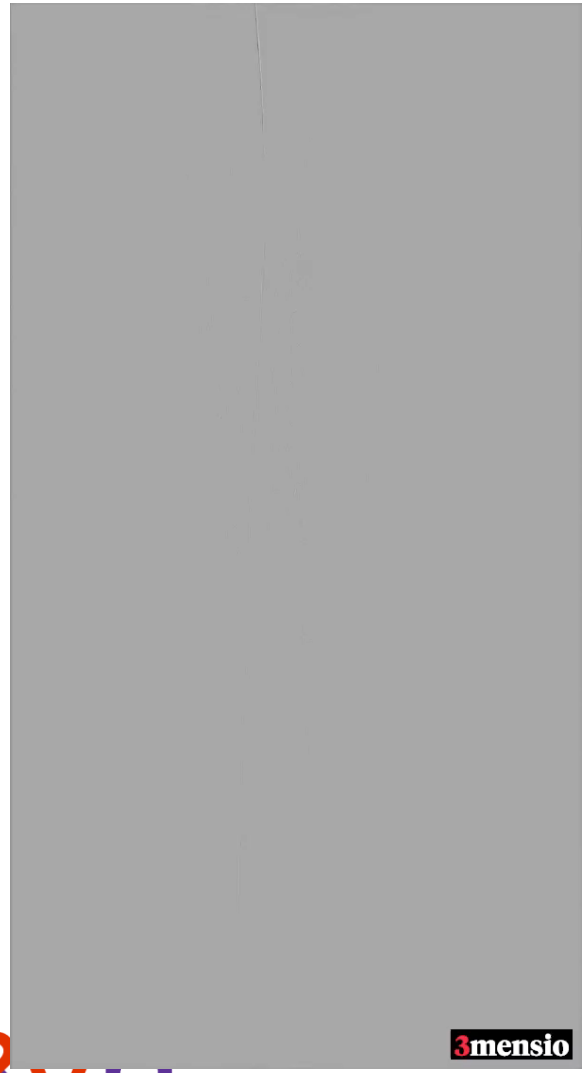


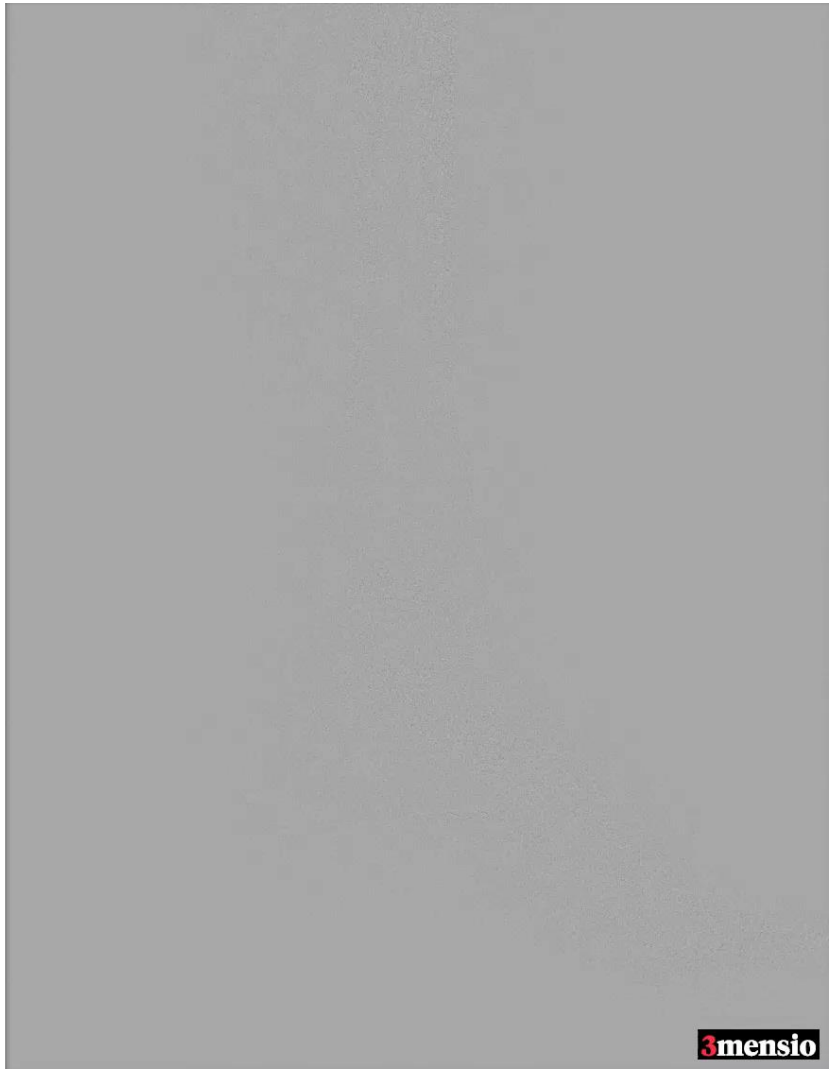
PTA iliacaal

PTA cruraal

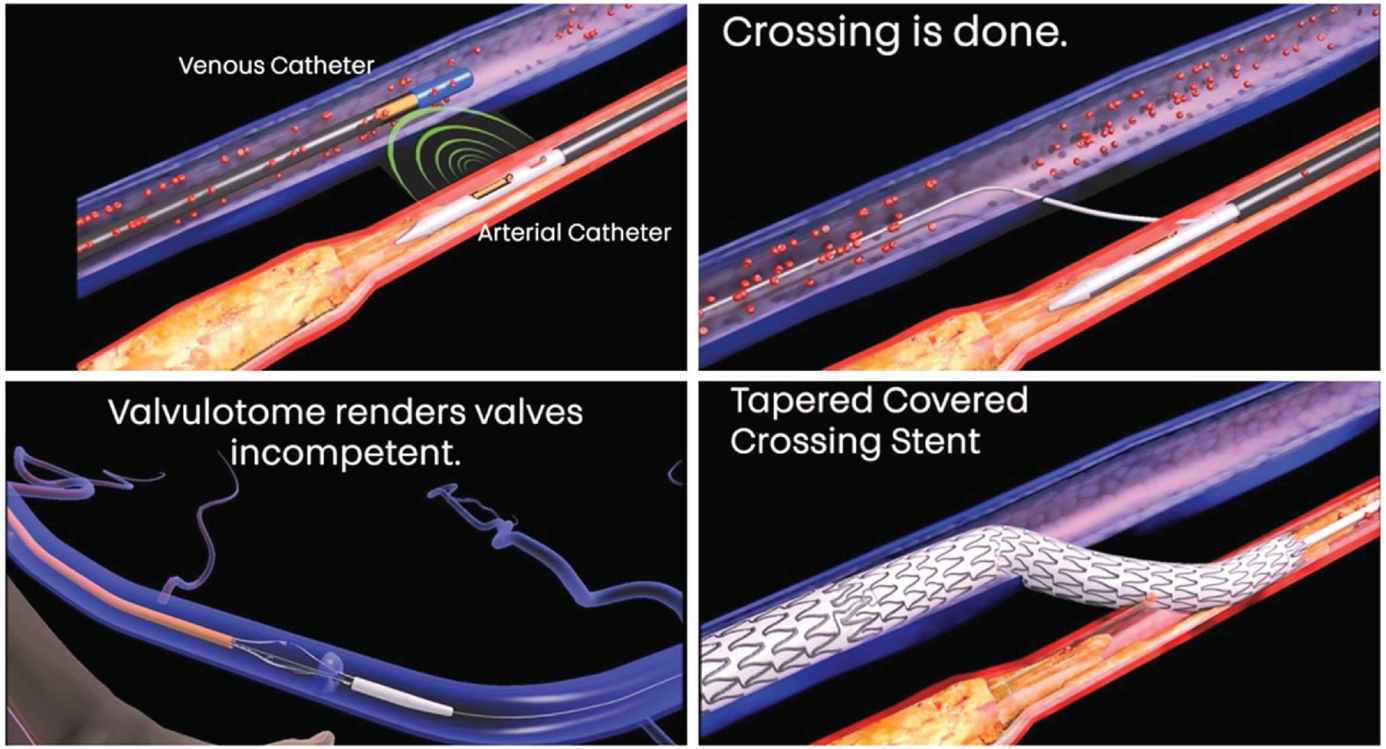


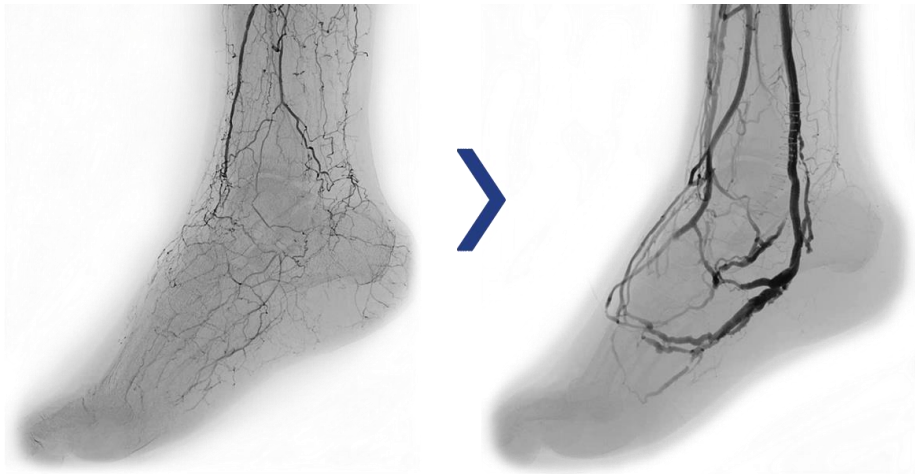
PTA cruraal





Veneuze arterialisatie





Concluderend

- Denk altijd aan ischemie bij perifere wonden
- Technisch veel mogelijk, steeds minder onmogelijk
- Indicatiestelling zeer belangrijk
- Uitkomsten sterk afhankelijk van het gehele team
- Investeer in een multidisciplinair behandelteam en zorgpad

Dank voor jullie aandacht!