

My Algorithm for Treatment of AVF-related Ischemia

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Ischemia...



- ...is rarely observed in the upper limb before AVF creation

Upper-limb Ischemia...



- ..is rarely observed before AVF creation
 - after AVF creation, ischemia is mostly due to the association of :
 - arteries lesion, and
 - fistula blood steal
- which may sometimes be corrected

Grade 1-2a



Conservative trt.

Grade 1-2a



Conservative trt.

Grade 4b



Ligation



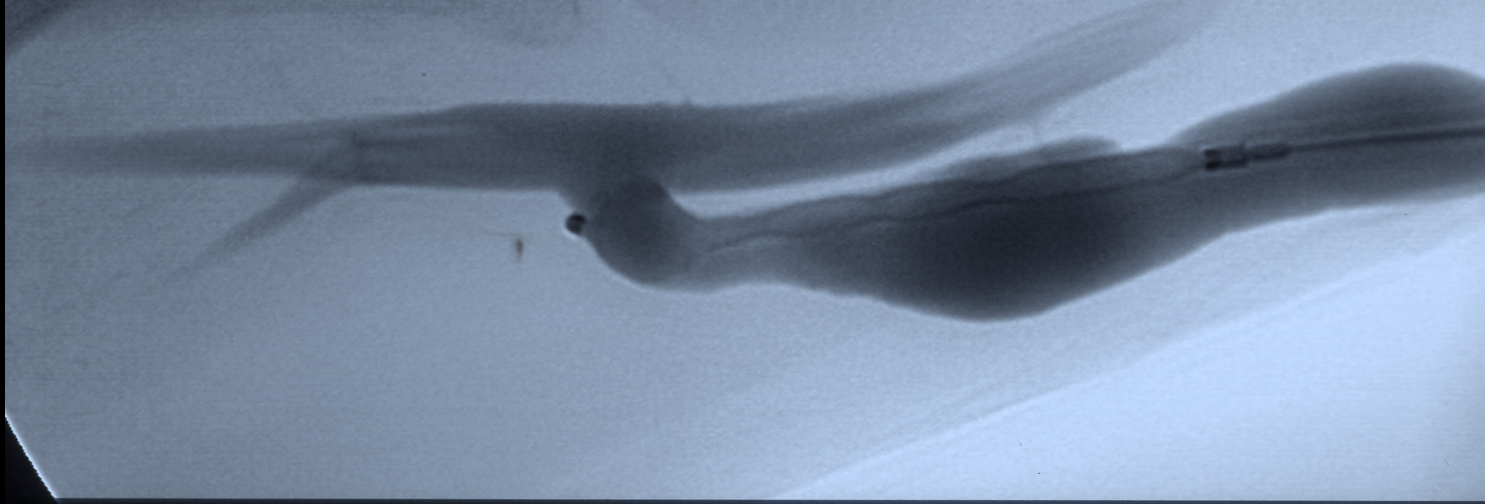
Calcified arteries, 4 weeks

after 1st stage Basalic Vein Transposition

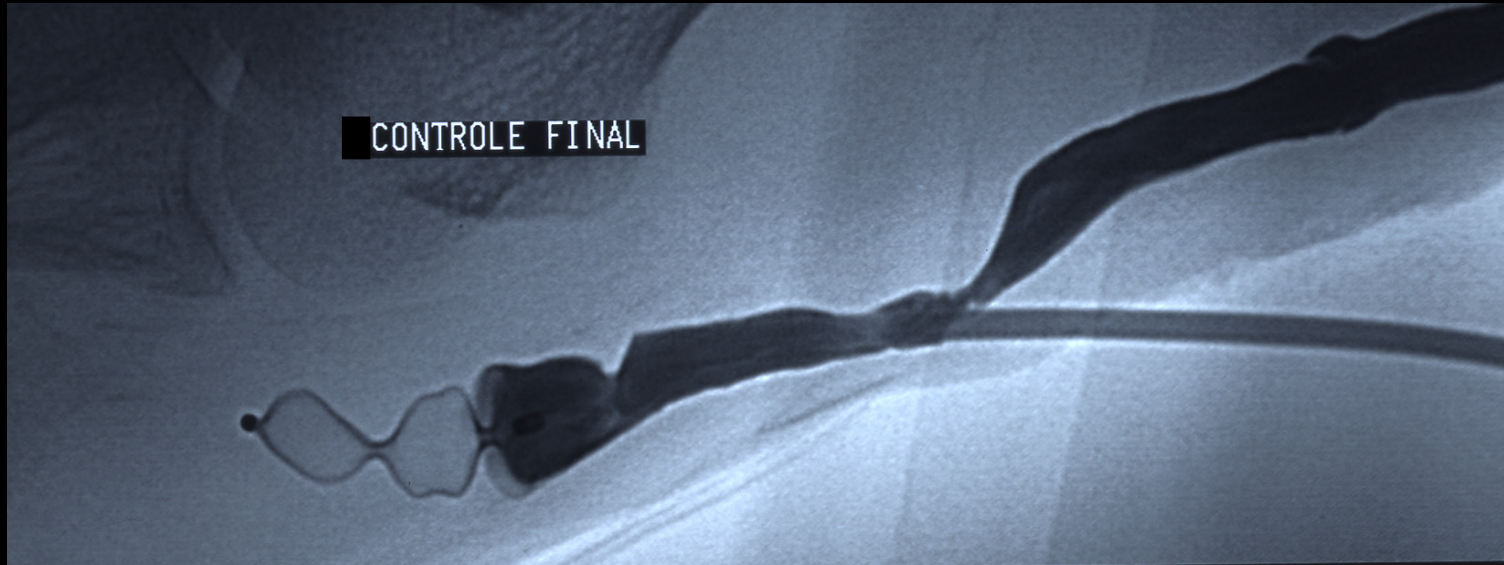


Multiple Necroses

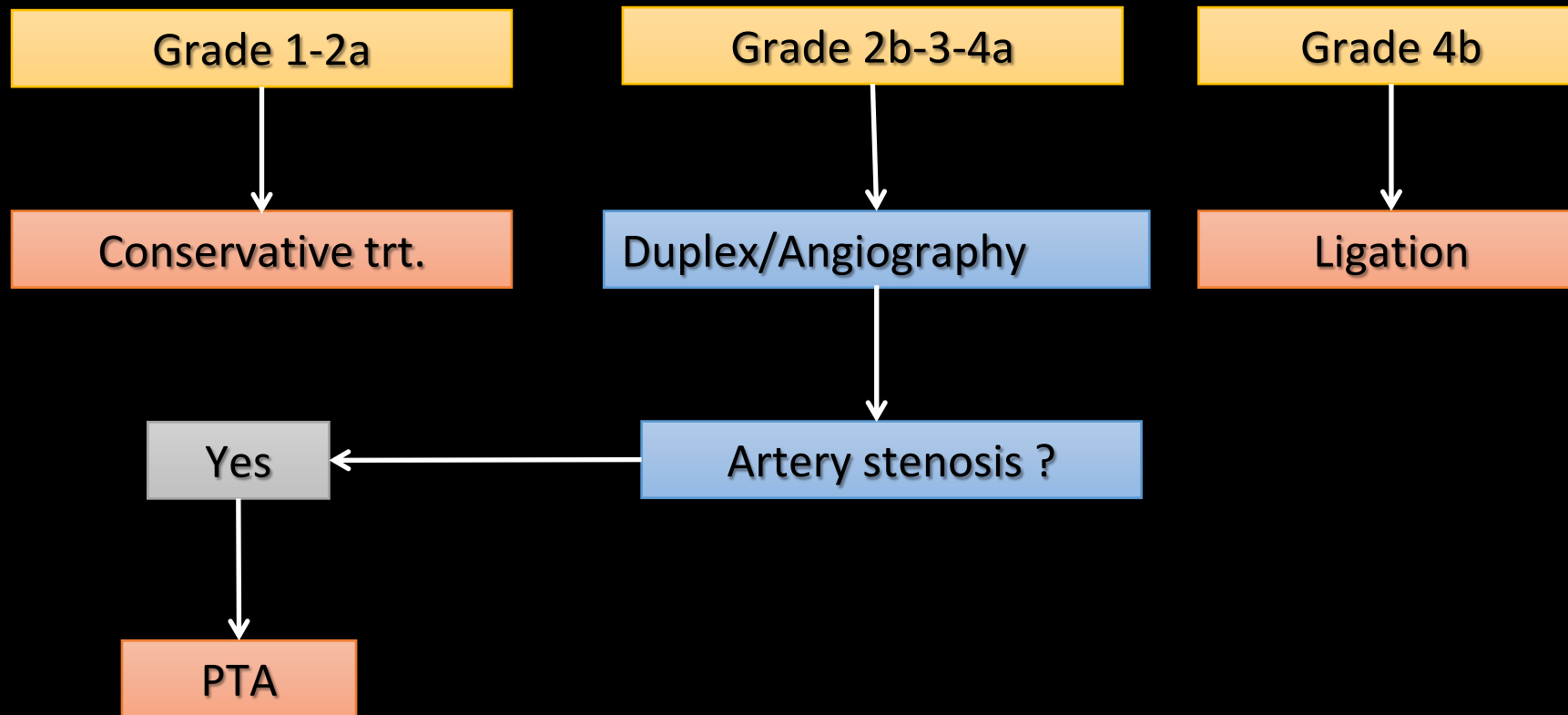
after 2nd stage Basalic transposition

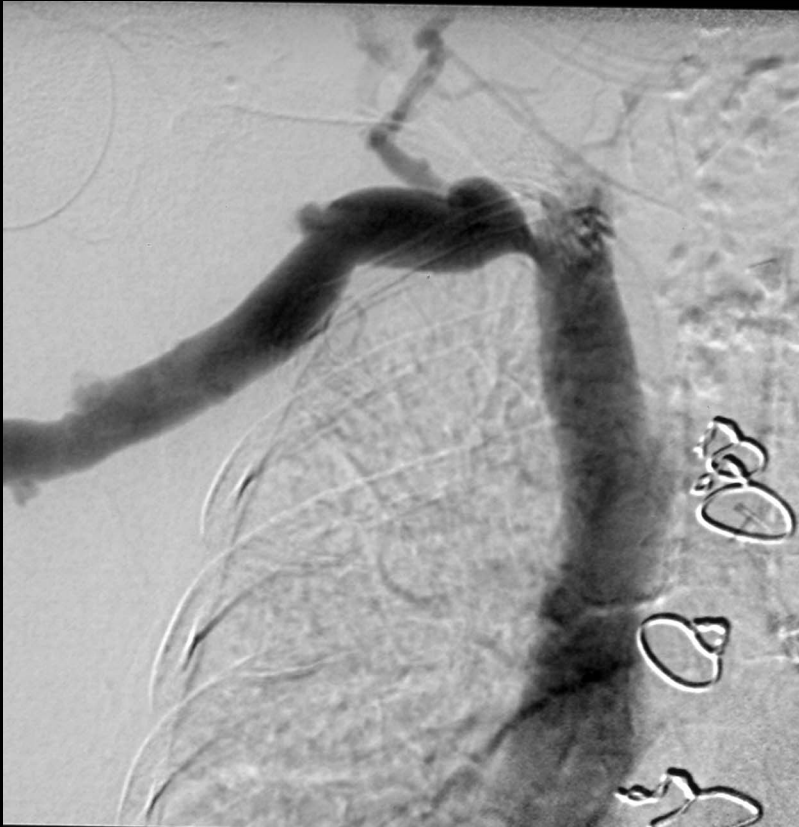


AVF occlusion was obtained by percutaneous plug insertion for vein thrombosis



Juxta-anastomosis vein thrombosis
after plug delivery





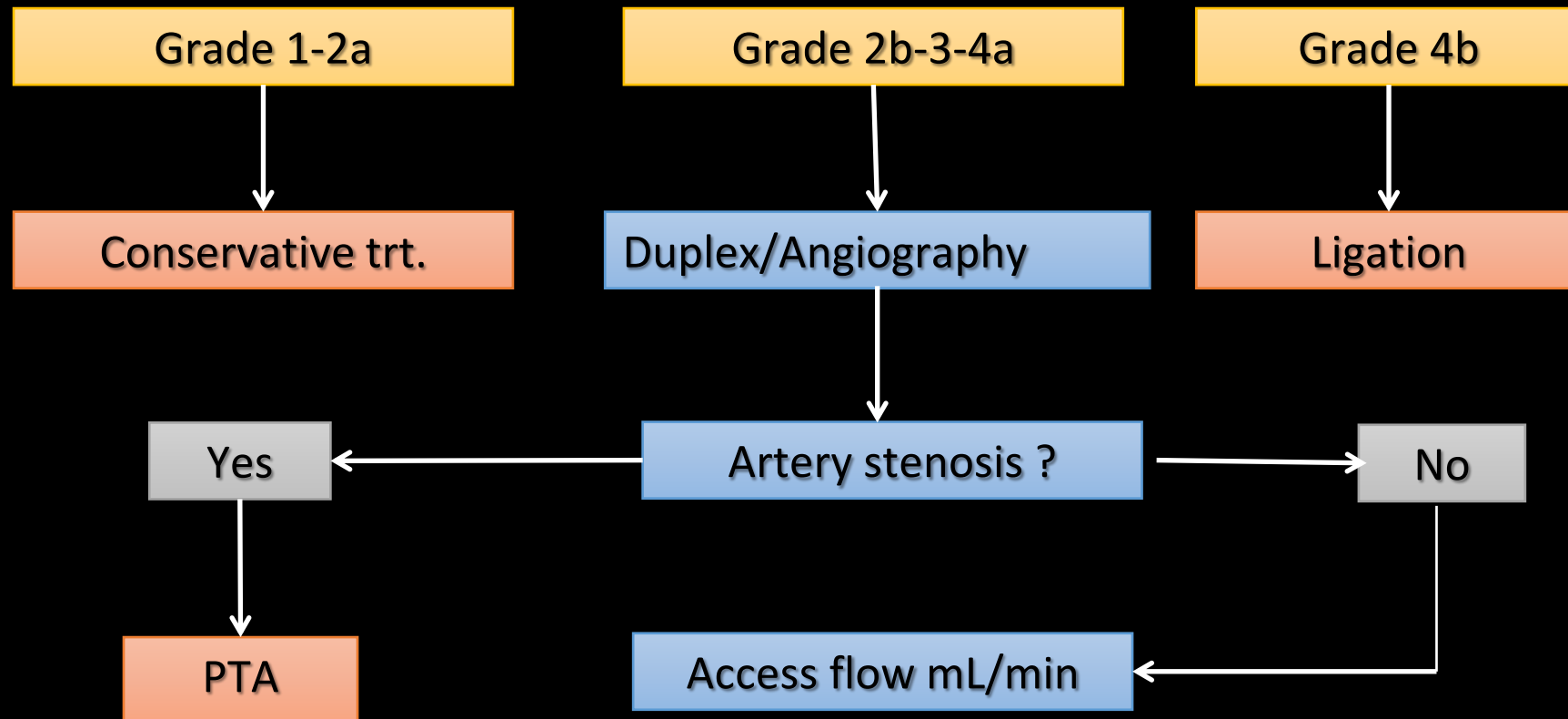
Subclavian
artery stenosis

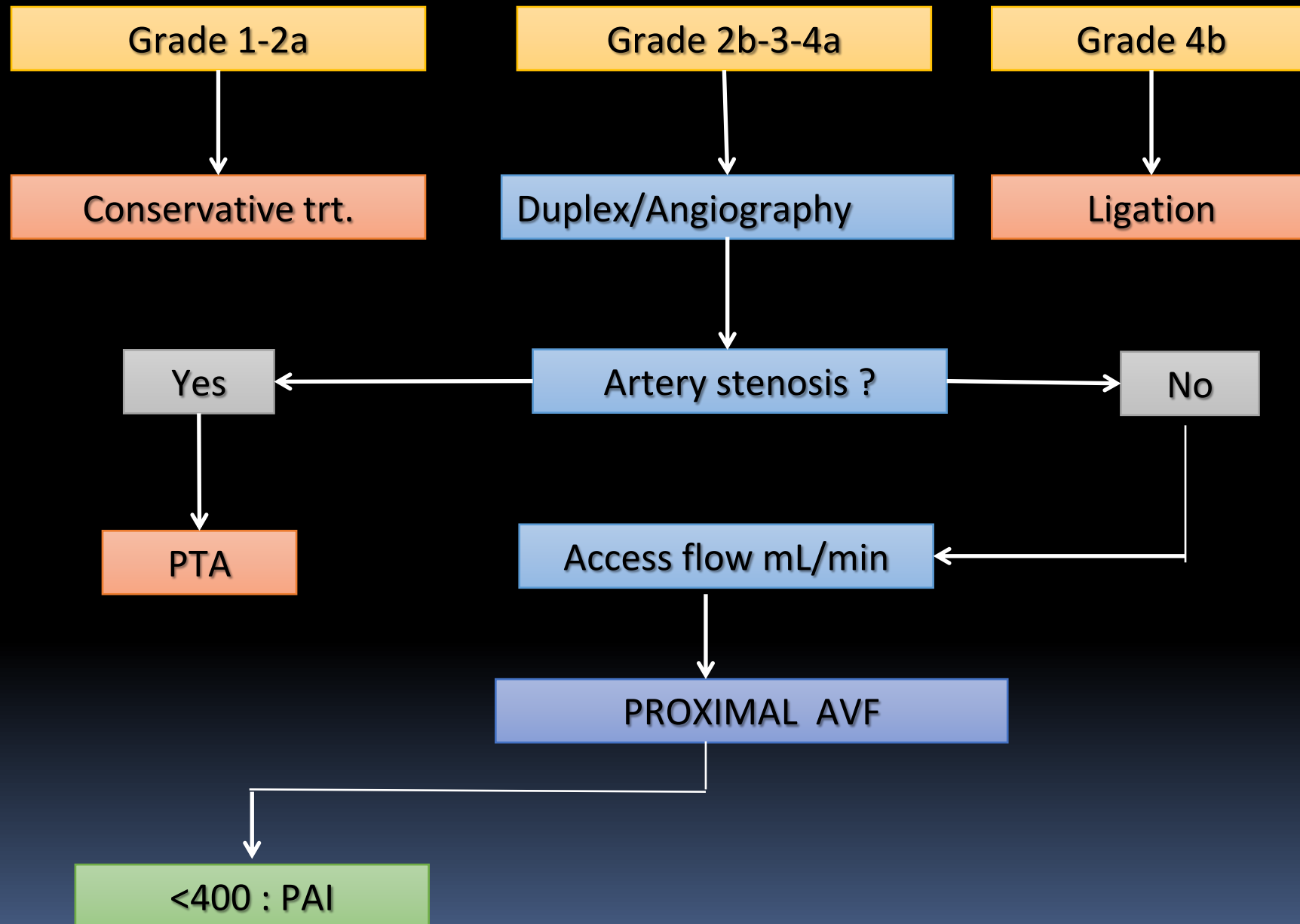


Calcified
atheromatosis.



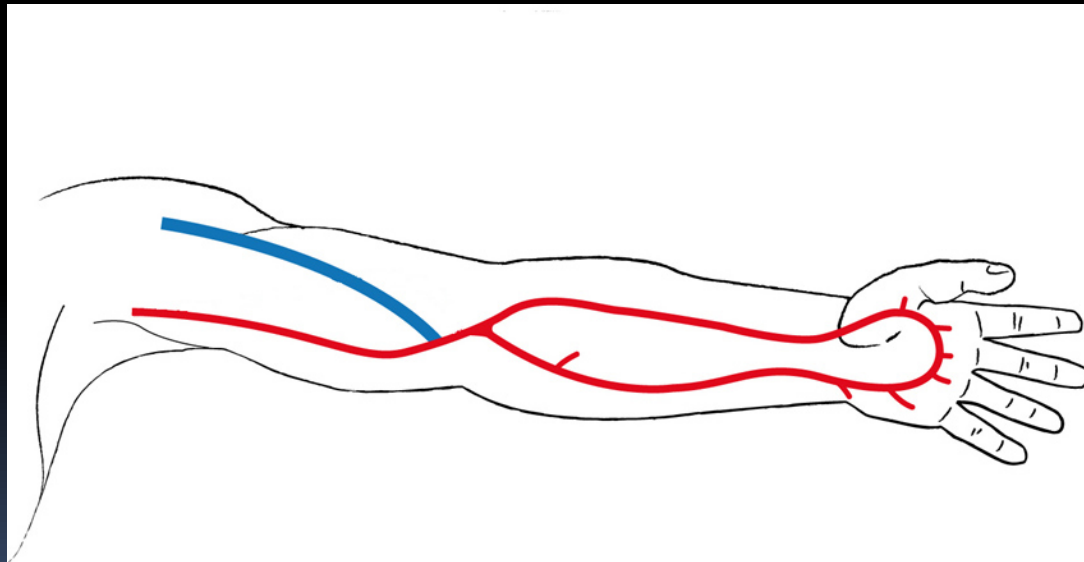
PTA
+ 2 stents



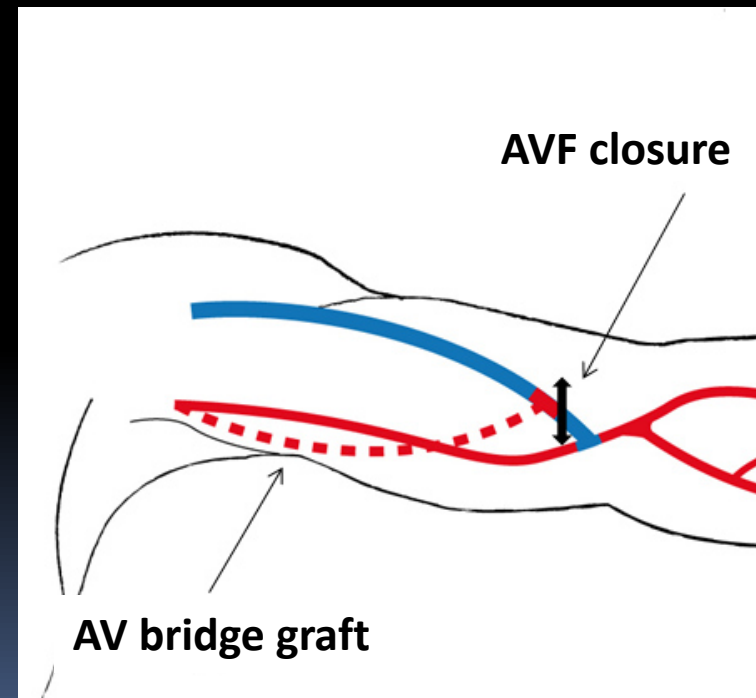


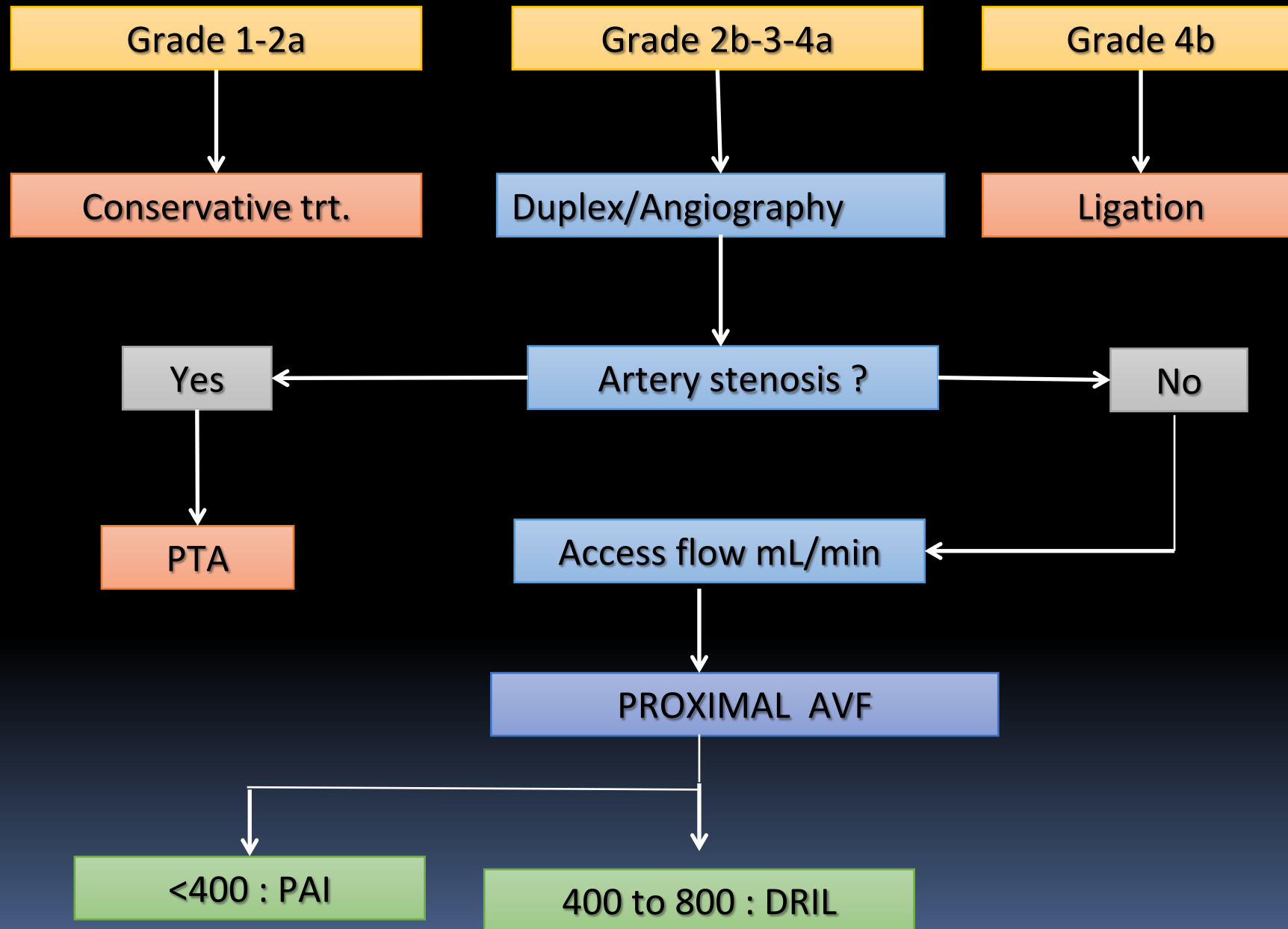
Proximalisation of Arterial Inflow (PAI)

Proximal AVF



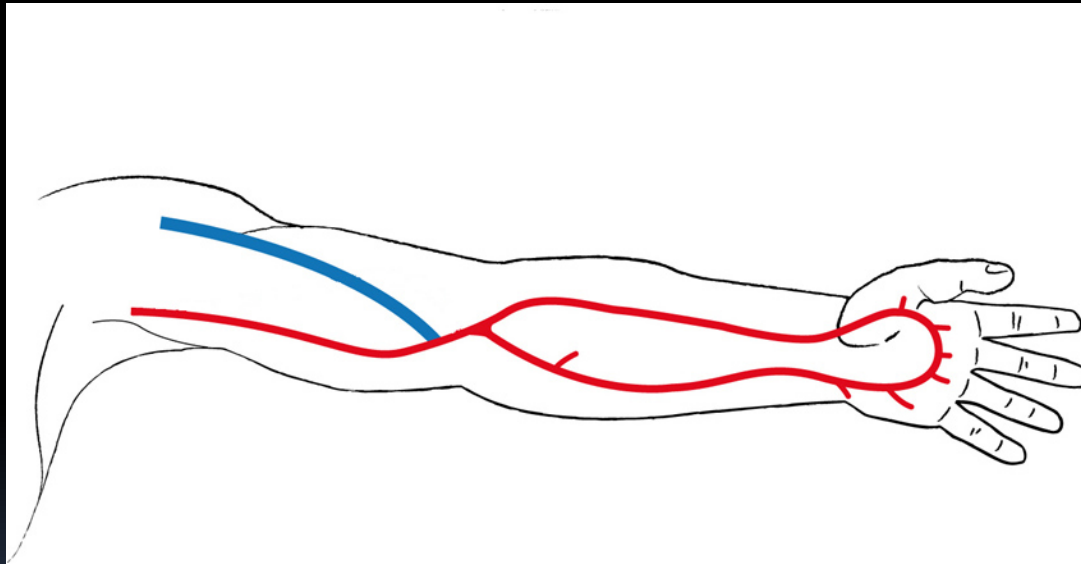
Zanow 2006



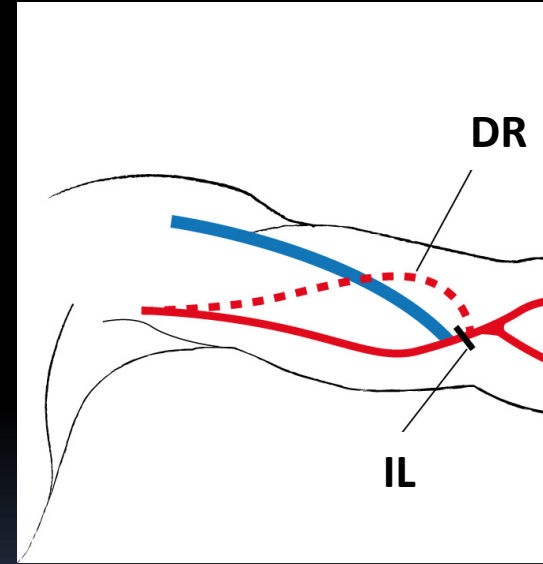


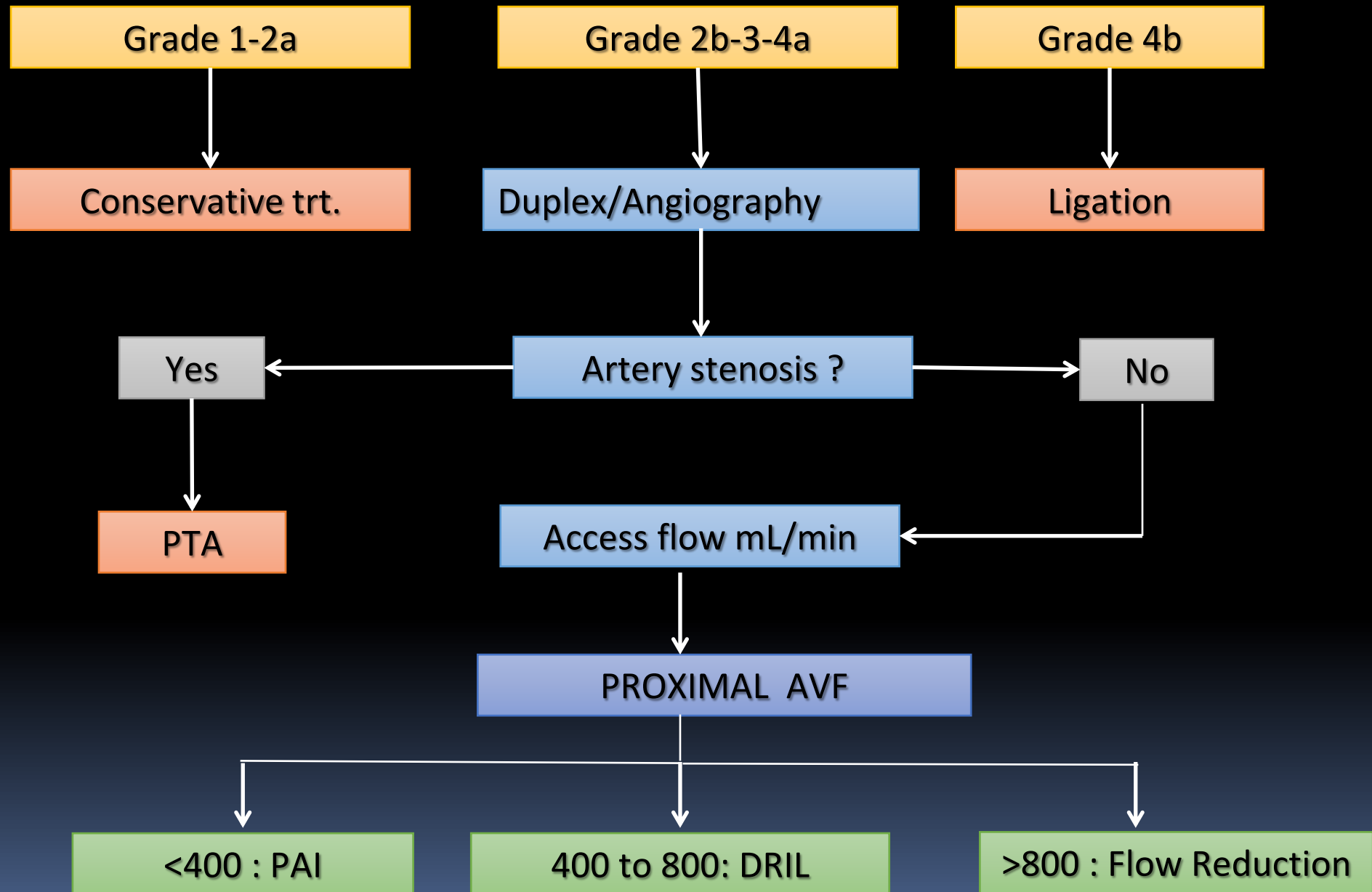
DRIL

Proximal AVF

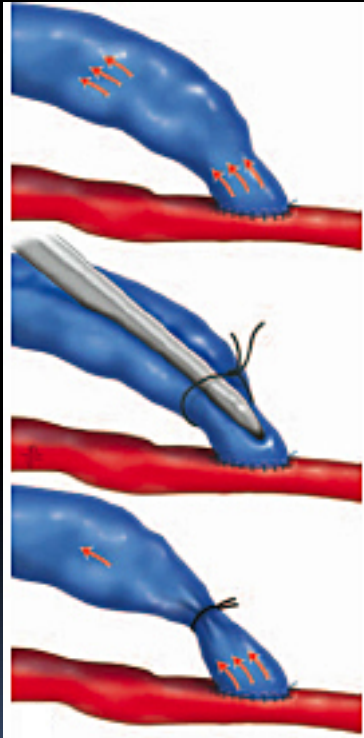


Schanzer 1988



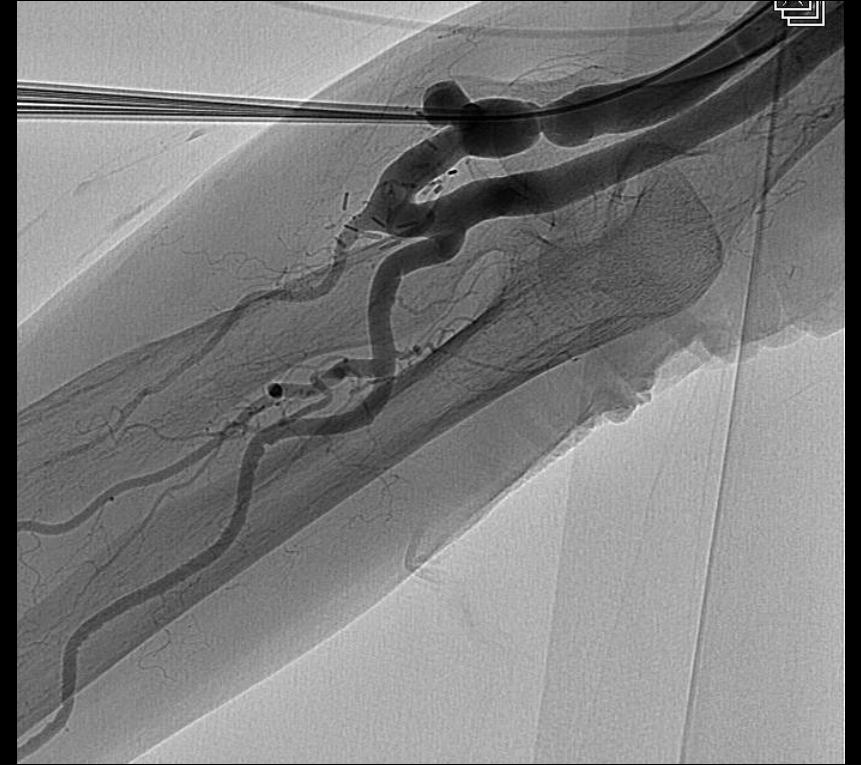


« Plain old banding »



Is still used by many
angioaccess surgeons with
limited results

« Plain old banding »



1m50, 48Kg

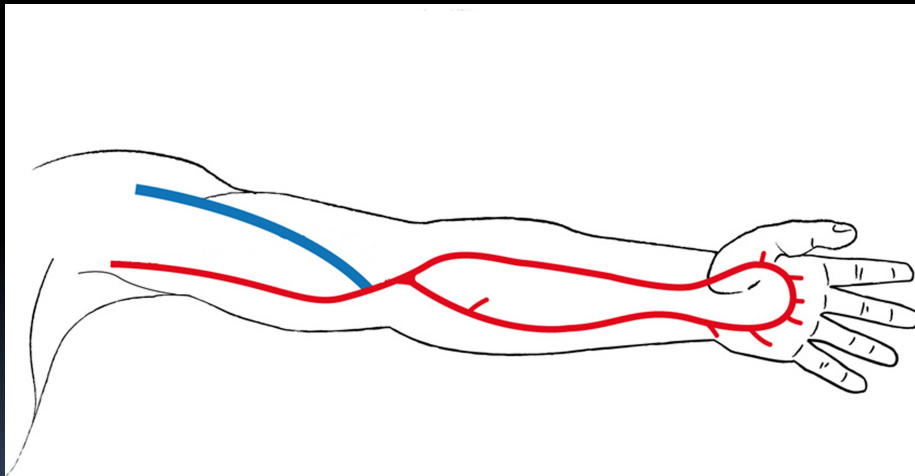
Bas V Tr , 1.8 L/min -> Banding -> 0.3 L/min -> PTA, 1.5 mL/min

The so-called « Precision banding »

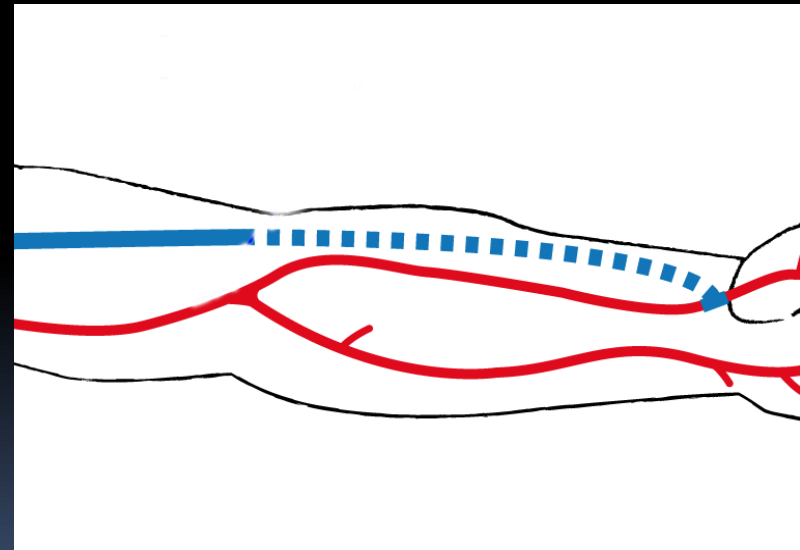
- has also many drawbacks :
 - more than 80% reduction of the caliber is necessary
 - perop. flow measurements might be imprecise due to spasm
 - with 2 major postoperative risks :
 - Persistent high-flow and ischemia
 - Access thrombosis

Distalisation of Inflow

Elbow AVF

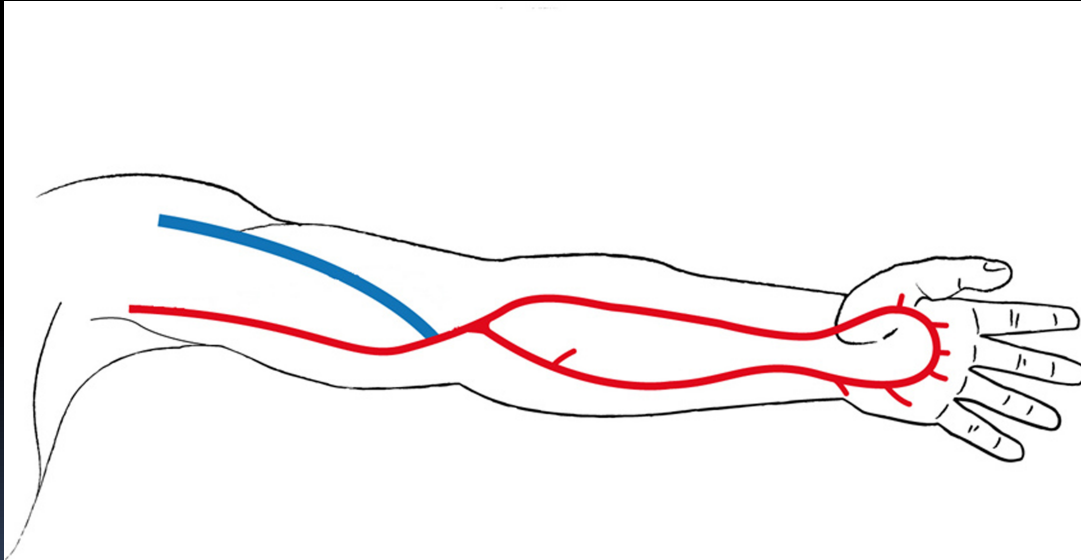


1- Bourquelot 1989

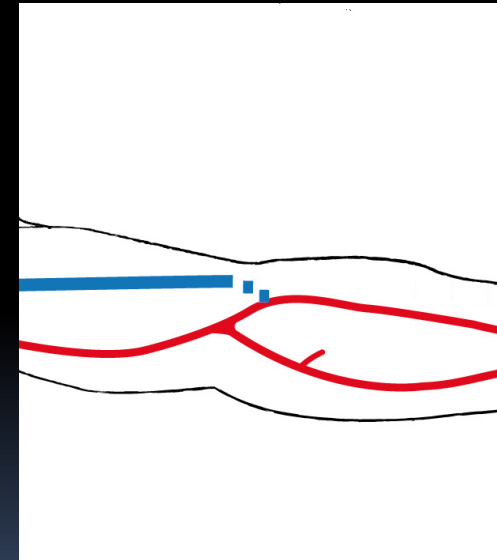


RUDI

Elbow AVF

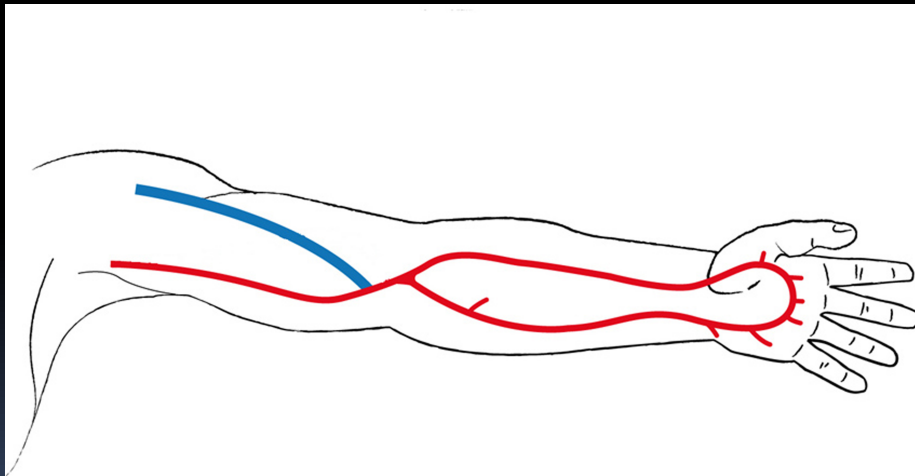


2- Minion 2007

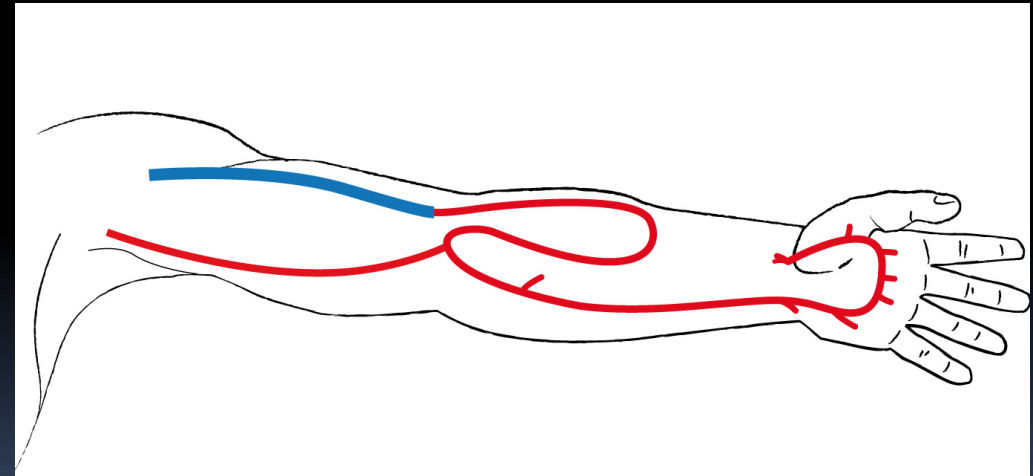


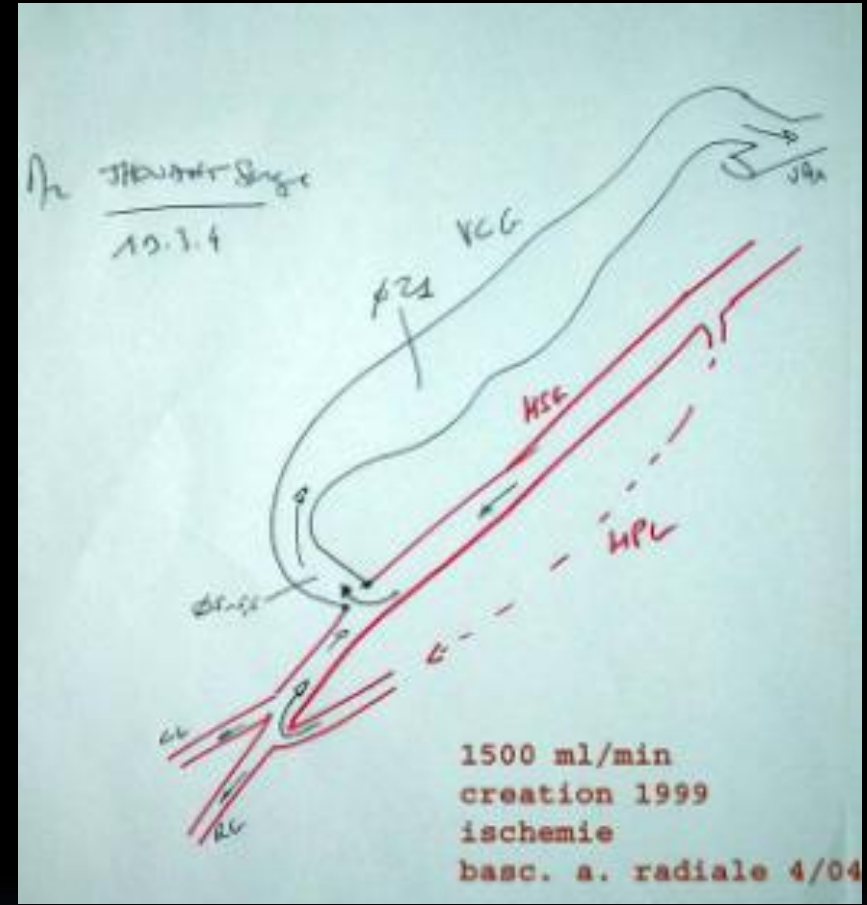
Transposition of Radial Artery

Elbow AVF

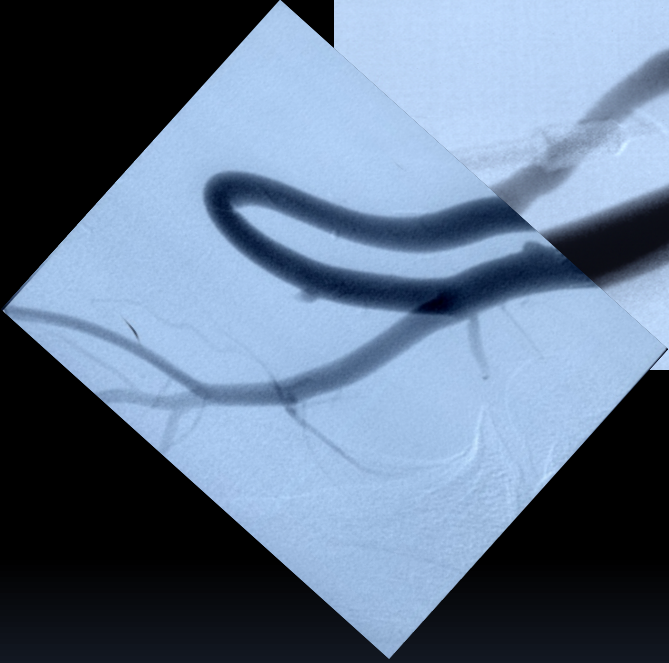
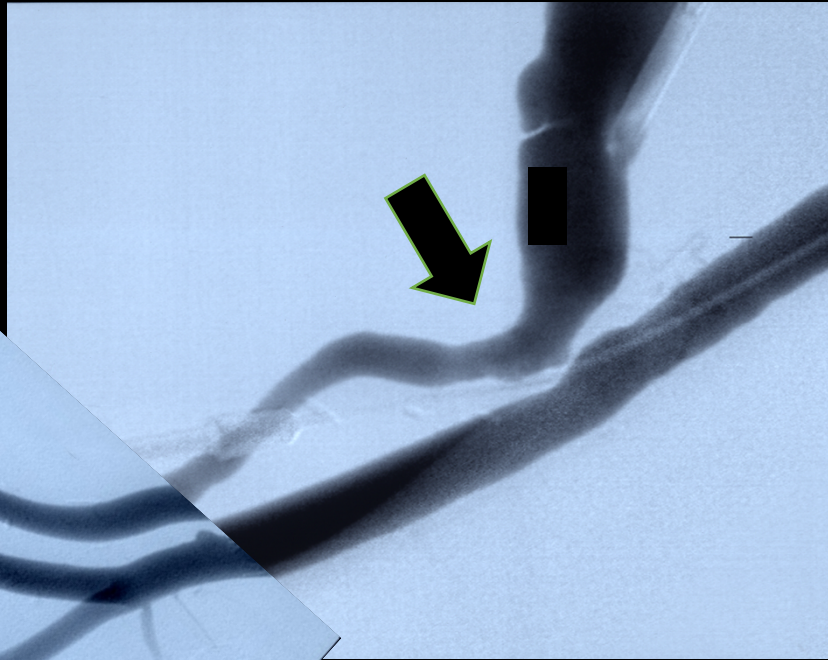


3- Bourquelot 2009

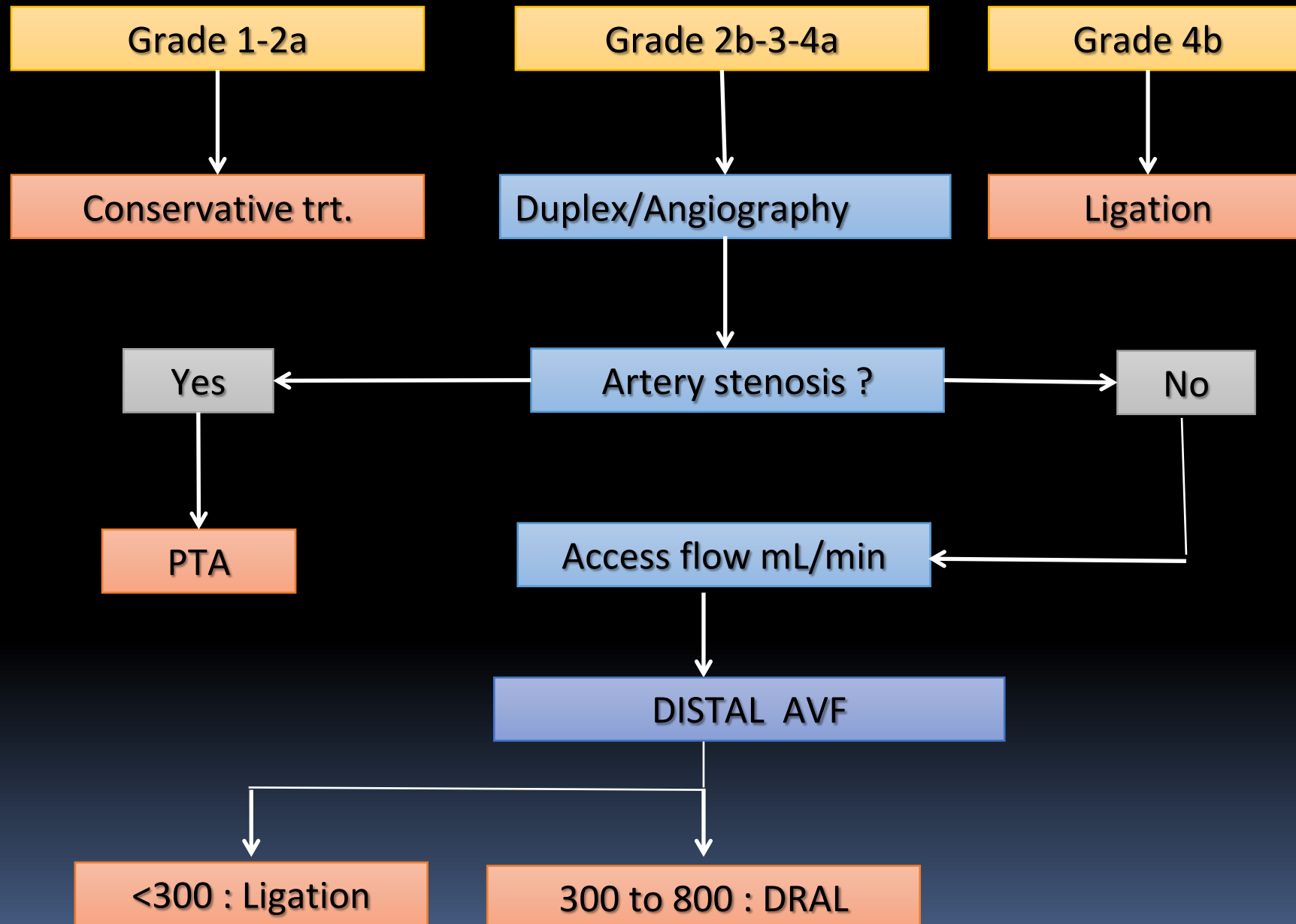




5 years after BC AVF (1500 mL/min)

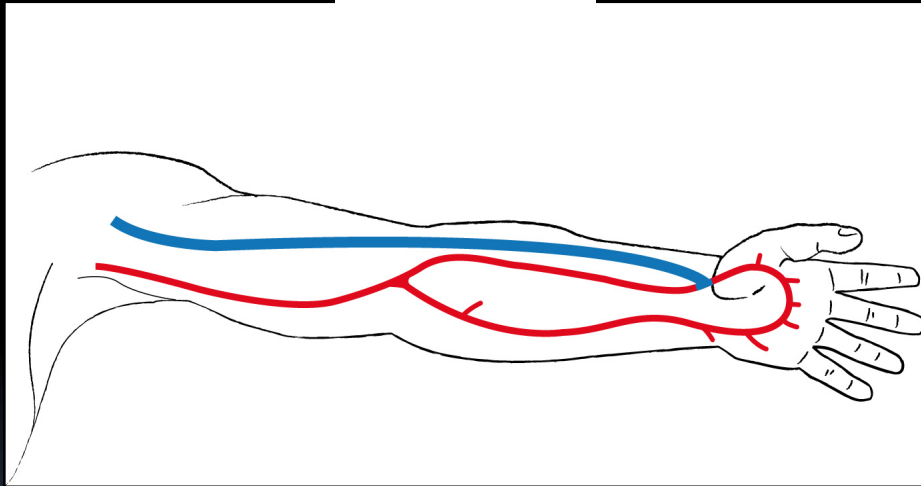


Radial Artery Transposition

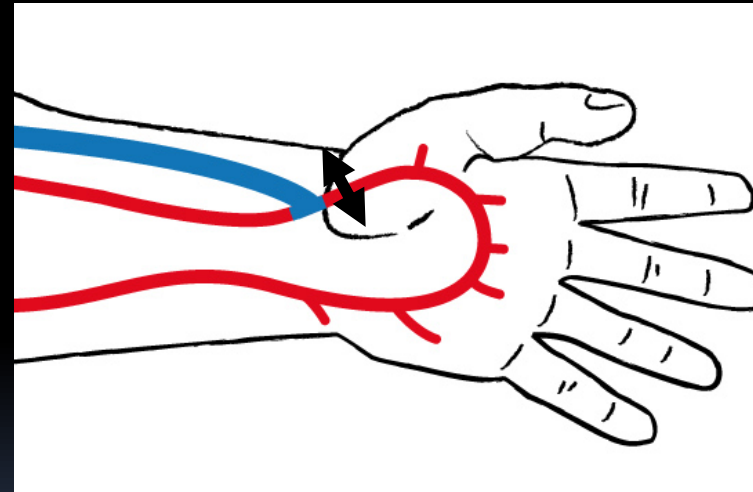


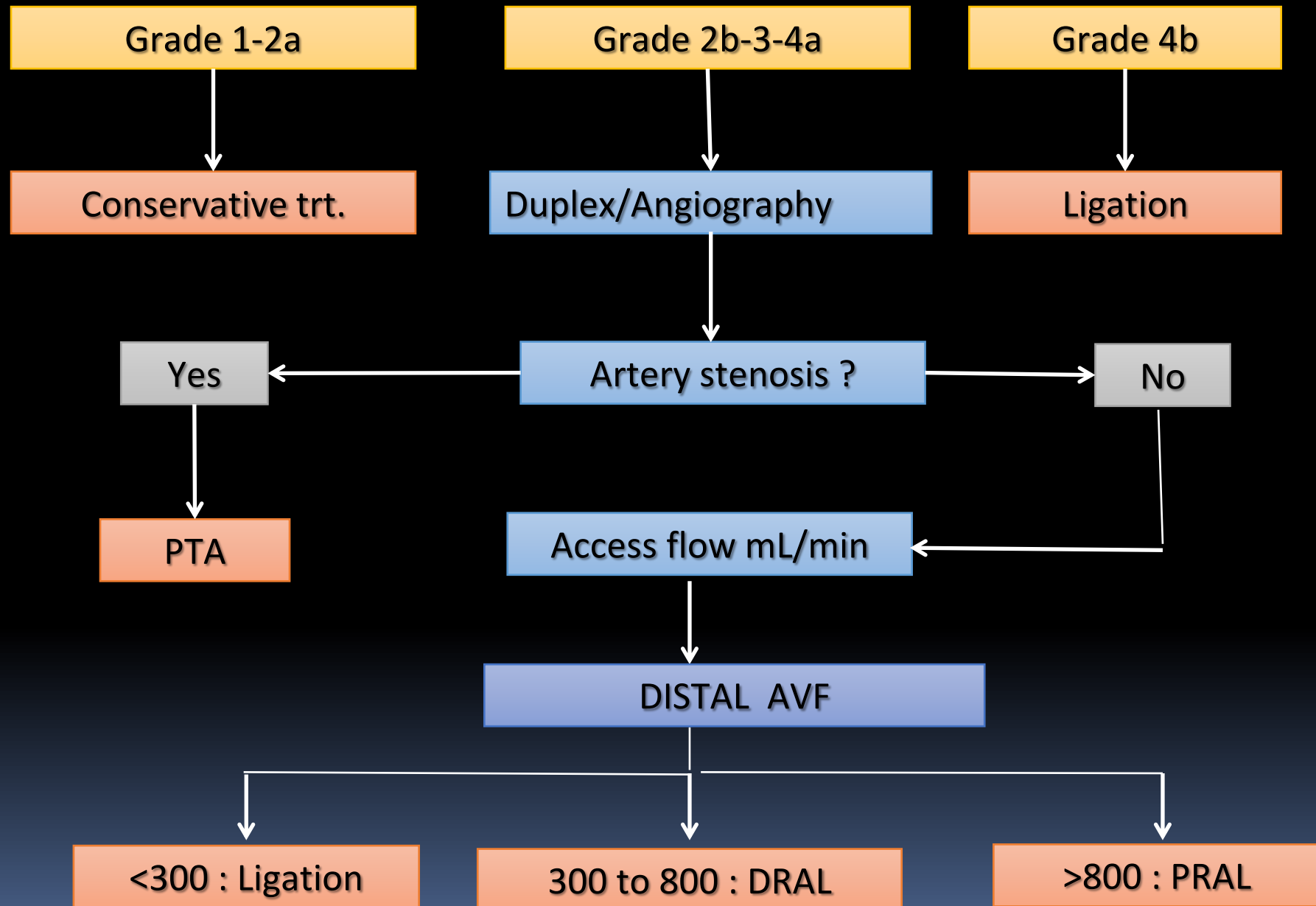
DRAL

Distal AVF (300 to 800 mLmin)



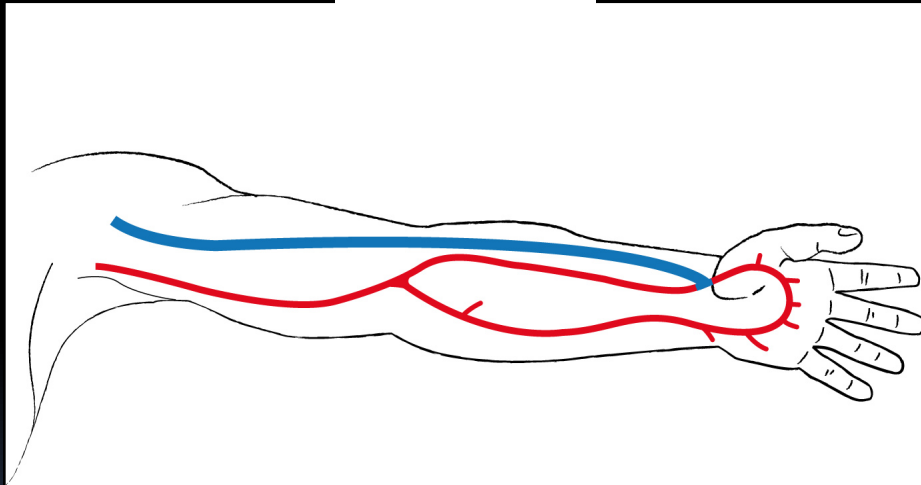
Miles 1999



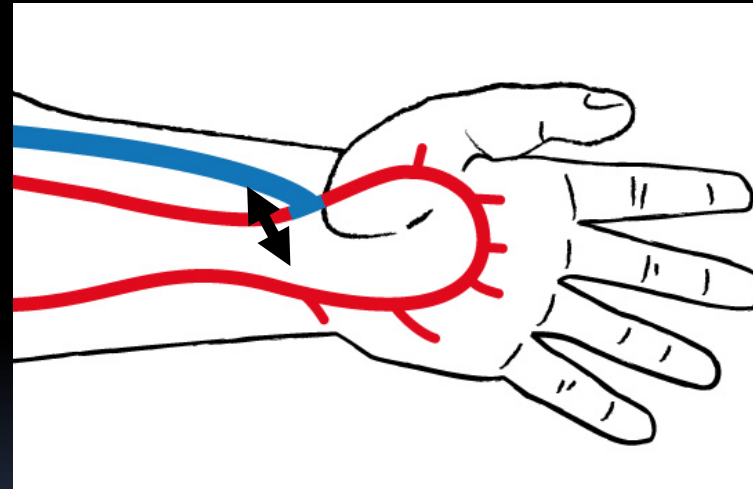


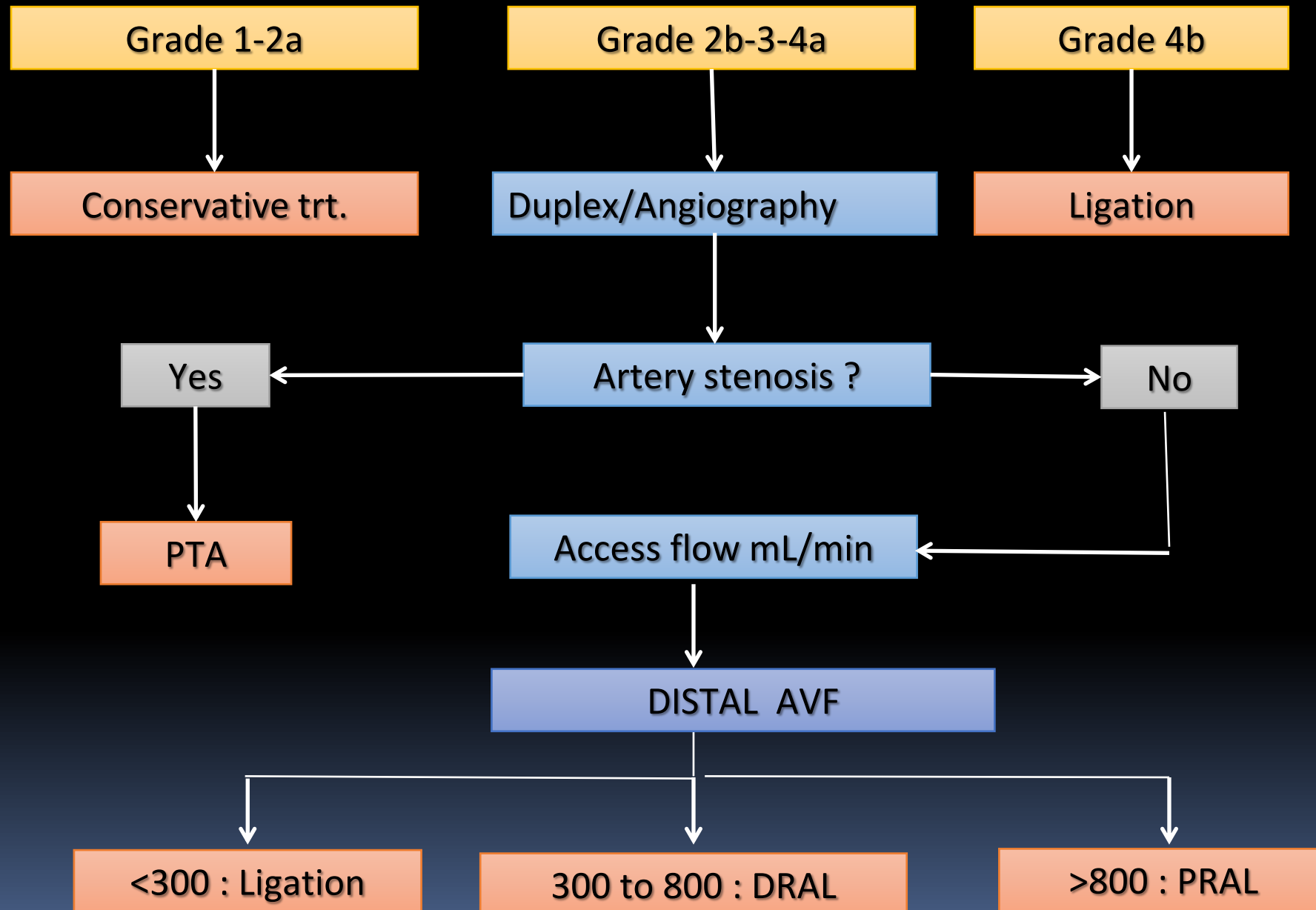
PRAL

Distal AVF (> 800 mLmin)



Bourquelot 1989





Ischemic Monomelic Neuropathy (IMN)

- Diabetic, old women are most exposed
- Acute Ischemic postoperative syndrome affecting only the vasa nervorum of the 3 forearm nerves at the elbow
 - resulting in major pain ++ and motor dysfunction
 - while distal pulse may be normal
- Rare complication, frequently misdiagnosed
- Urgent AVF ligation is needed...
- Full recovery is not sure...

Venous Hypertension and Gangrene



- Central or peripheral vein stenosis + AVF

-> Oedema ± Skin Ulcer

Finally, let us mention ...

- Ischemic cardiomyopathy
- Bowel ischemia
- Compromised kidney transplant function due to low flow renal artery

Which might be induced by long standing high-flow fistulae according to Amerling who wrote : « AVF is a lesser evil »

Lomonte's answer was : « AVF, a blessing of God »

Thank you for your attention

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