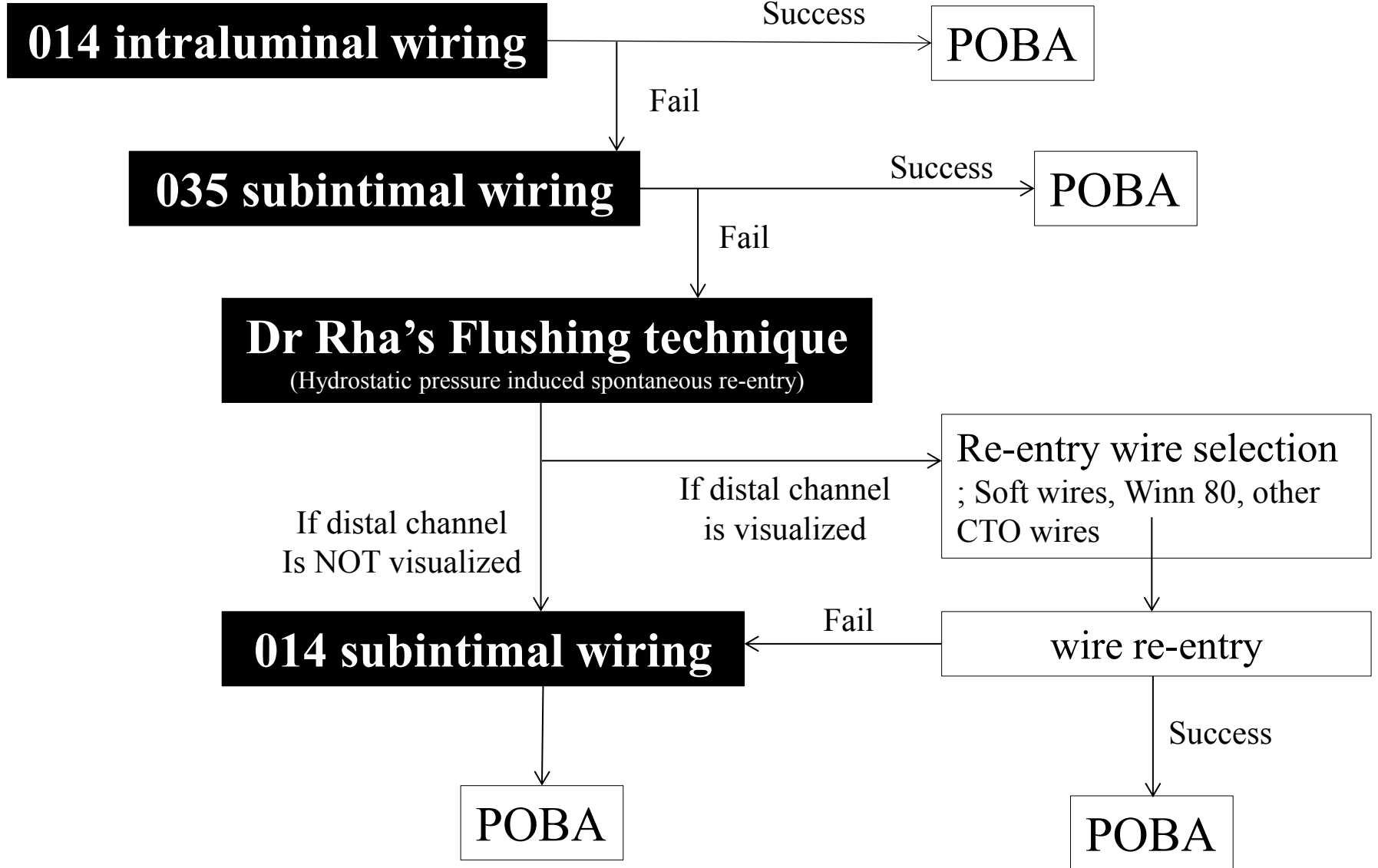


# **Multiple Endovascular Choices for BTK CTO without Distal Stump**

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# Four major strategies for BTK CTO without distal stump



# Four major strategies for BTK CTO without distal stump

**014 intraluminal wiring**

Success

POBA

Fail

**035 subintimal wiring**

Success

POBA

Fail

**Dr Rha's Flushing technique**

(Hydrostatic pressure induced spontaneous re-entry)

If distal channel  
Is NOT visualized

If distal channel  
is visualized

Re-entry wire selection  
; Soft wires, Winn 80, other  
CTO wire

Fail

wire re-entry

Success

**014 subintimal wiring**

POBA

POBA

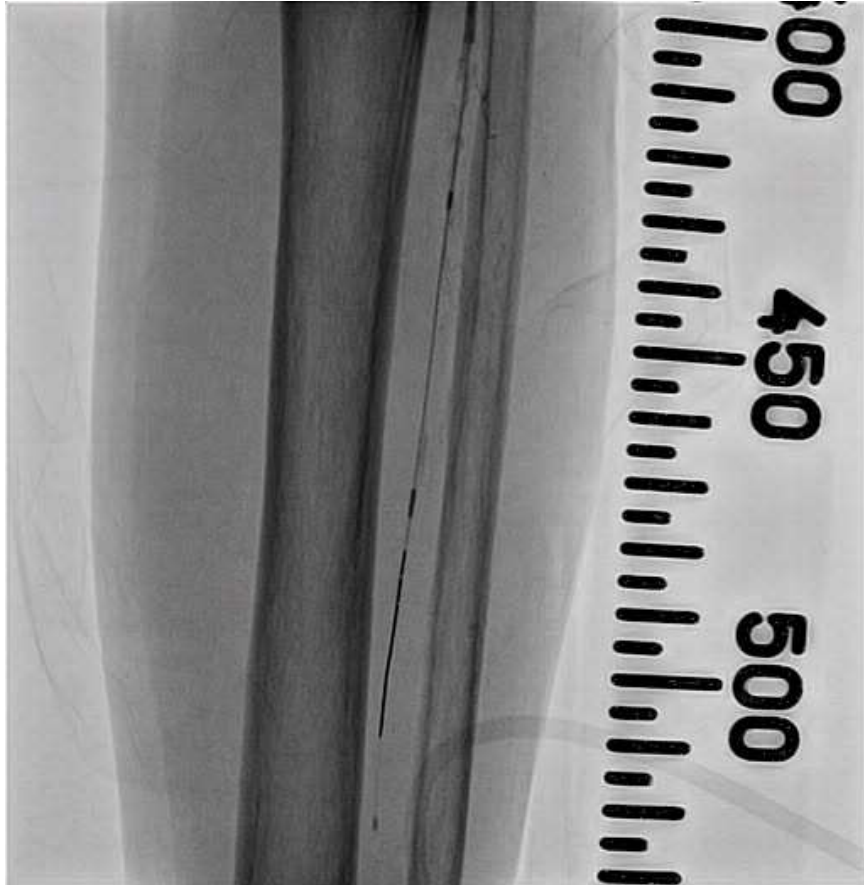
# CASE 1. Intraluminal Wiring



# Case 2. Intraluminal Wiring



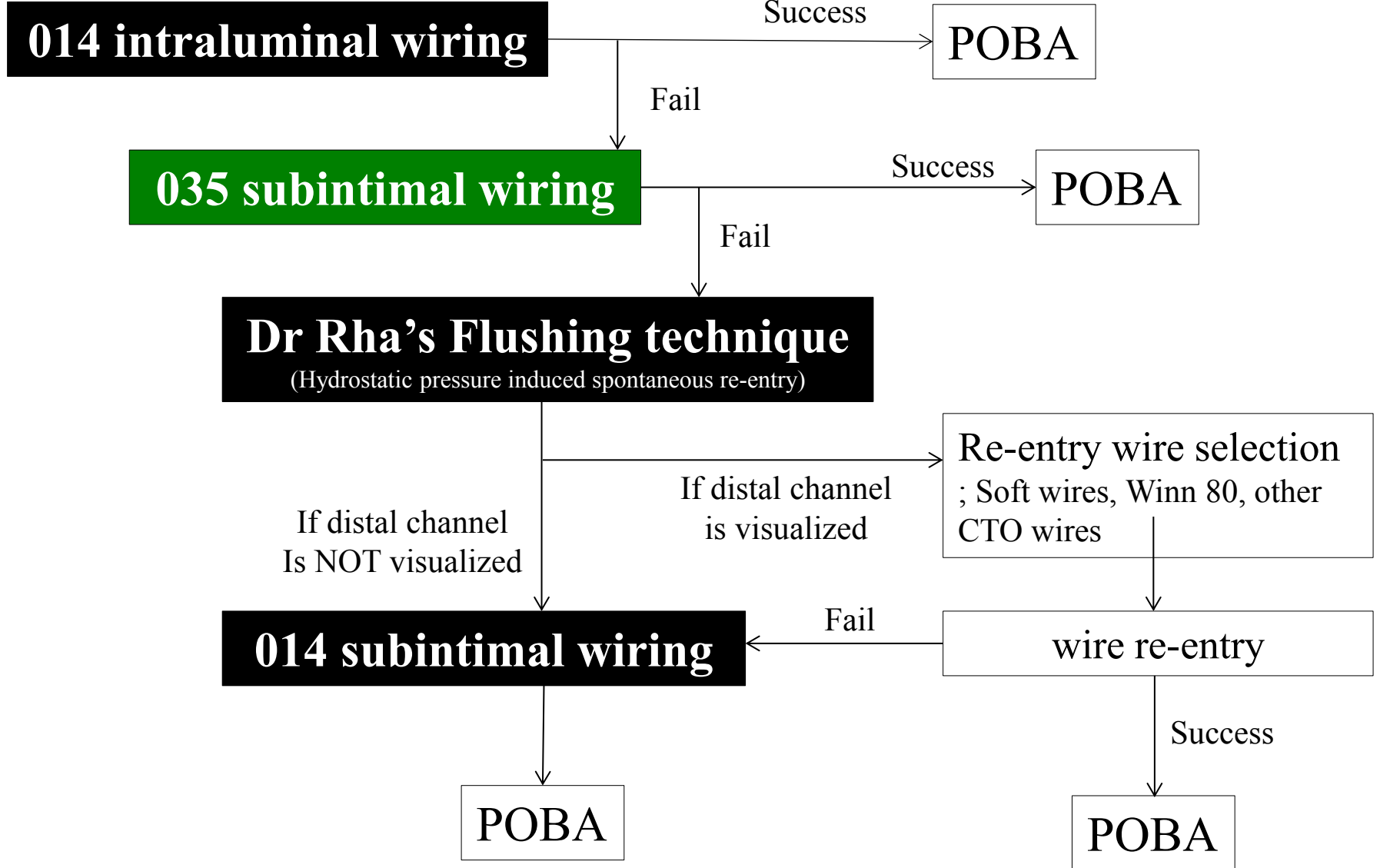
# Case 2. 014 wiring with supporting microcatheter



# Case 2. balloon and final result



# Four major strategies for BTK CTO without distal stump





**014 intraluminal wiring**

Success

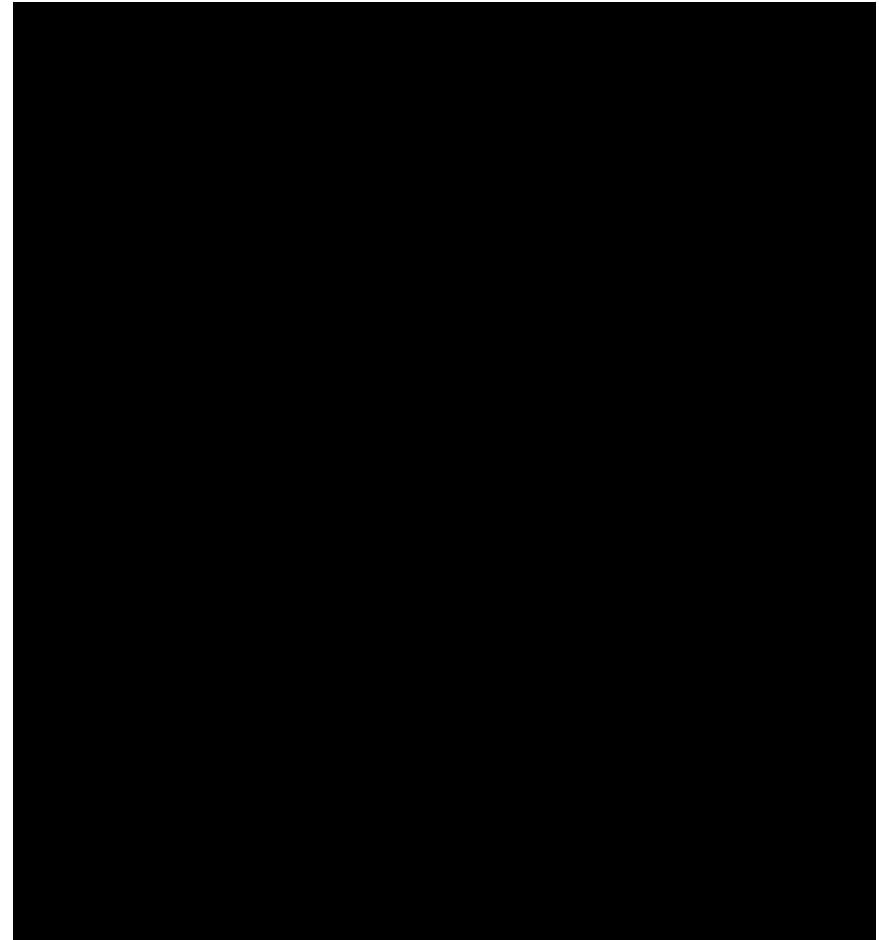
POBA

Fail

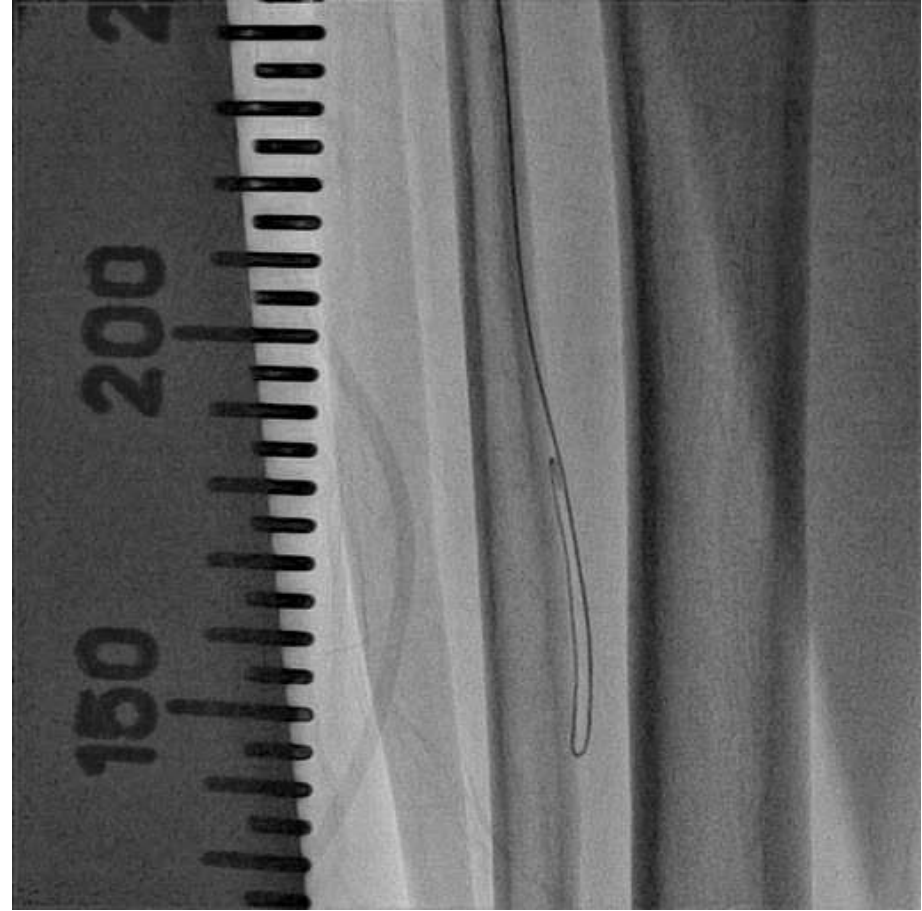
**035 Terumo  
subintimal wire tracking**

1. Empirical 035 Terumo subintimal wiring using 1.5 J-tip shape can be useful until feeling *free motion* around the ankle level (Push down far beyond the ankle level is *not recommended* due to the risk of rupture, esp in calcified lesion).
2. In selective cases, infra-ankle fine channels can be found *without free motion* of 035 Terumo wire.

# Anterior tibial artery CTO without distal channel



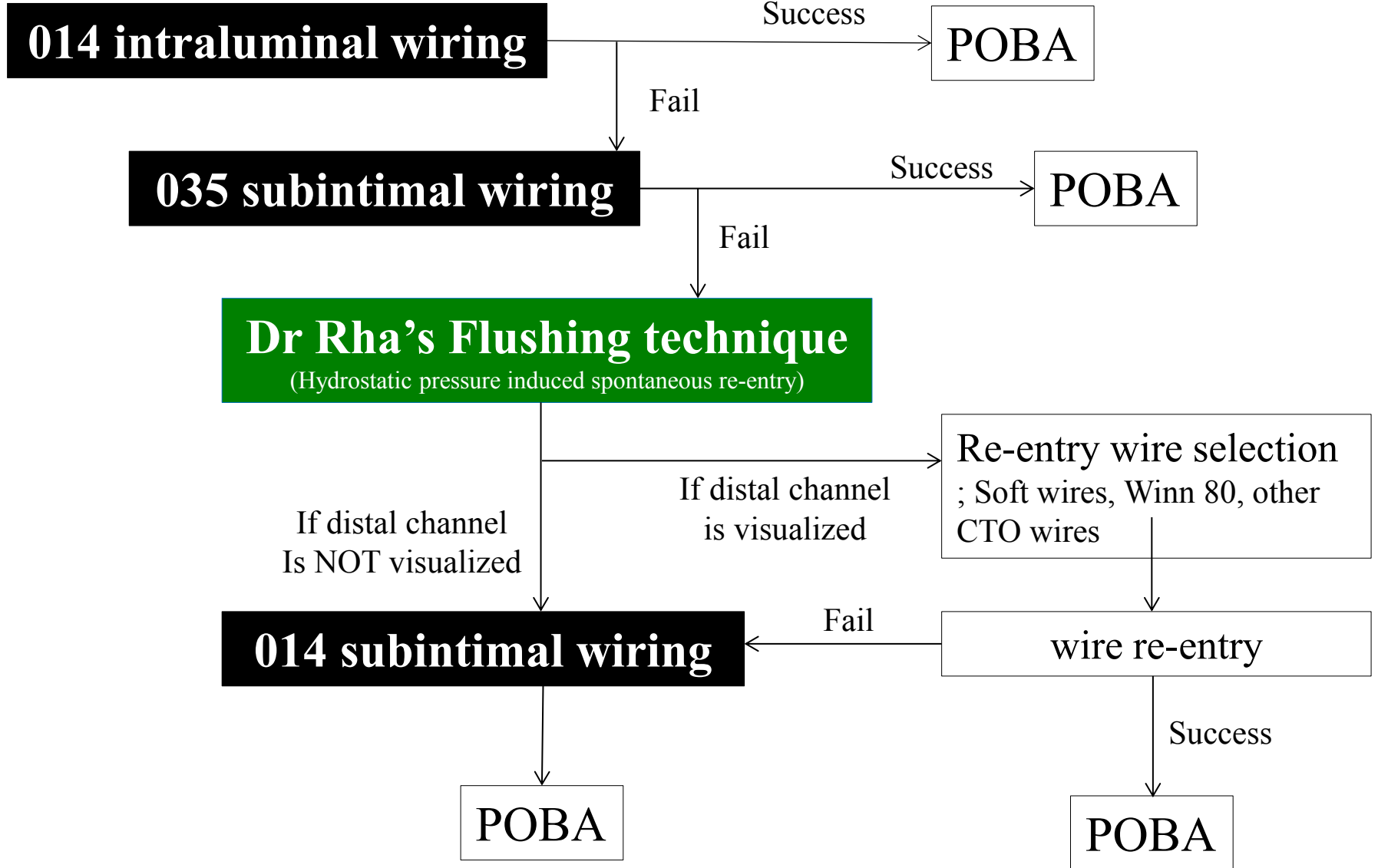
# 035 Terumo Subintimal Wiring (1.5J)

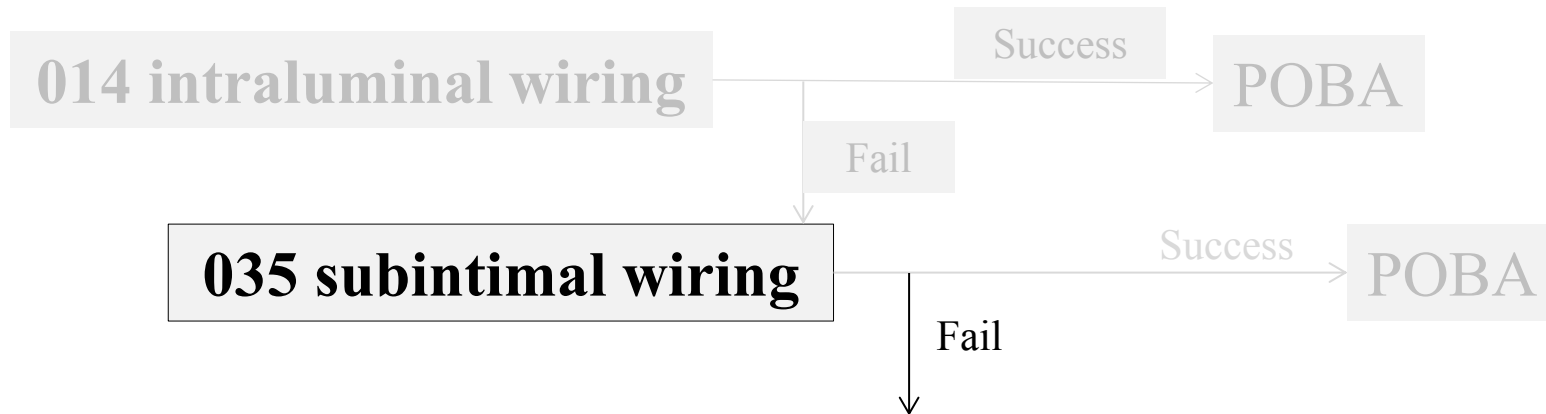


# Anterior tibial artery CTO without distal channel



# Four major strategies for BTK CTO without distal stump





## Dr Rha's Flushing technique

(Hydrostatic pressure induced spontaneous re-entry)

↓  
If distal channel  
is visualized →

- Re-entry wire selection;**
- Soft, hydrophilic wires
  - Winn 80 for selective wiring
  - other CTO wires
  - 014 subintimal wiring

### 1. Catheter position

→ Should be located just above the ankle

### 2. Flushing technique

→ forceful injection of 10cc saline combo mixed with Nitro 200 µg

### 3. Combo saline forceful injection

→ Hydrostatic pressure induced spontaneous re-entry (subintima to true lumen)

# Flushing technique preparation



- Flushing technique can be effectively done when catheter distal tip is located just above the ankle level (014 wiring and POBA up to ankle level is needed for catheter delivery)

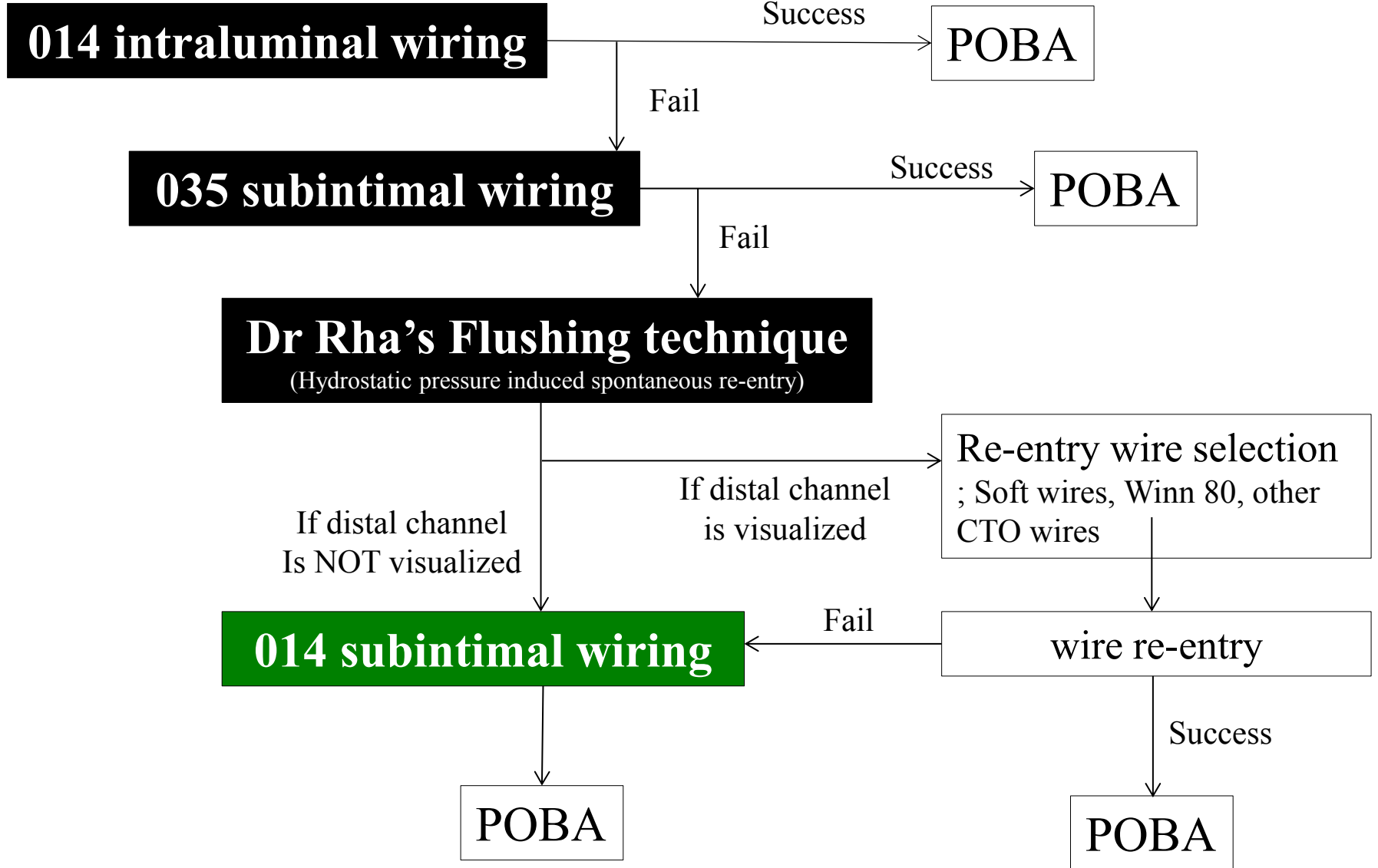
# Dr Rha's Flushing Technique



- \*Negotiation from Subintimal space to True lumen by
- 1) Soft 014 wiring
  - 2) Selective CTO wiring; Winn 80 preferred
  - 3) 014 Subintimal wiring under microcatheter support



# Four major strategies for BTK CTO without distal stump



014 intraluminal wiring

Success

POBA

Fail

035 subintimal wiring

Success

POBA

Fail

## Rha's Flushing technique

(Hydrostatic pressure induced spontaneous re-entry)

If distal channel  
Is NOT visualized

If distal channel  
is visualized

Re-entry wire selection  
; Winn 80, other CTO wire

014 subintimal wiring

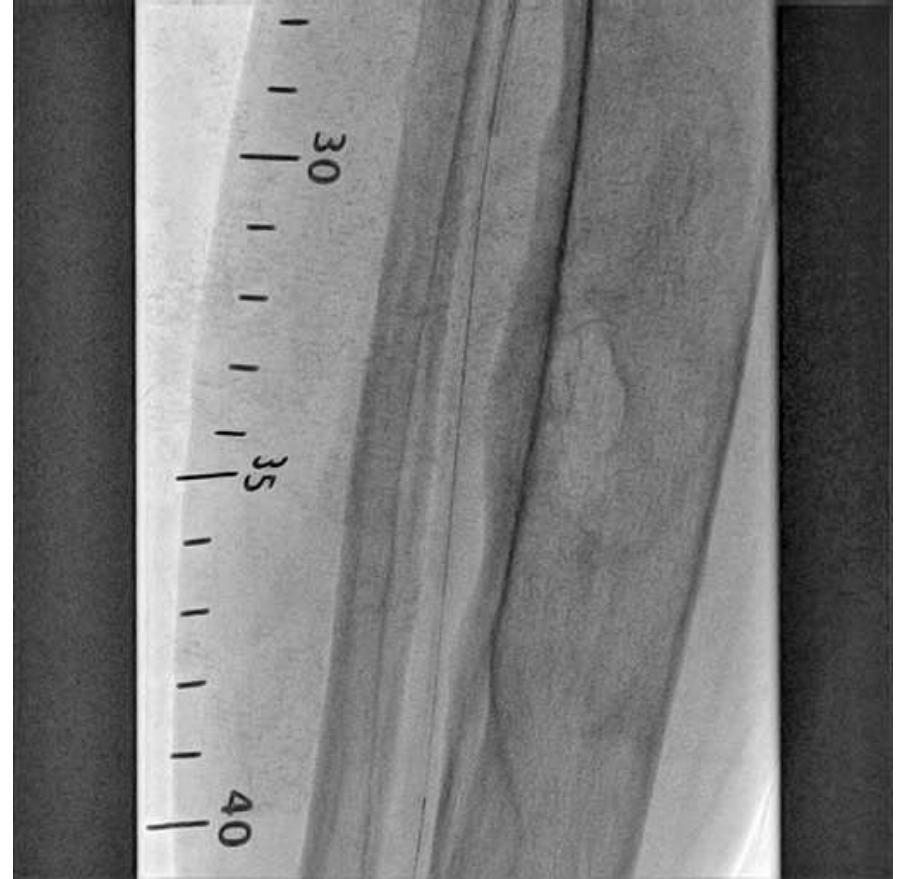
wire re-entry

Soft wires; 014 Fielder FC (coronary wire), HydroST,  
Regalia, Command and so on...  
Supported by dedicated microcatheters  
(CXC/CXI, Rubicon, and Trailblazer...)

# CASE 1; 014 Subintimal Wiring ; HydroST (COOK)



# CASE 1; 014 Subintimal Wiring ; POBA and Final



## CASE 2; 014 Subintimal Wiring ; Regalia (Ashai)



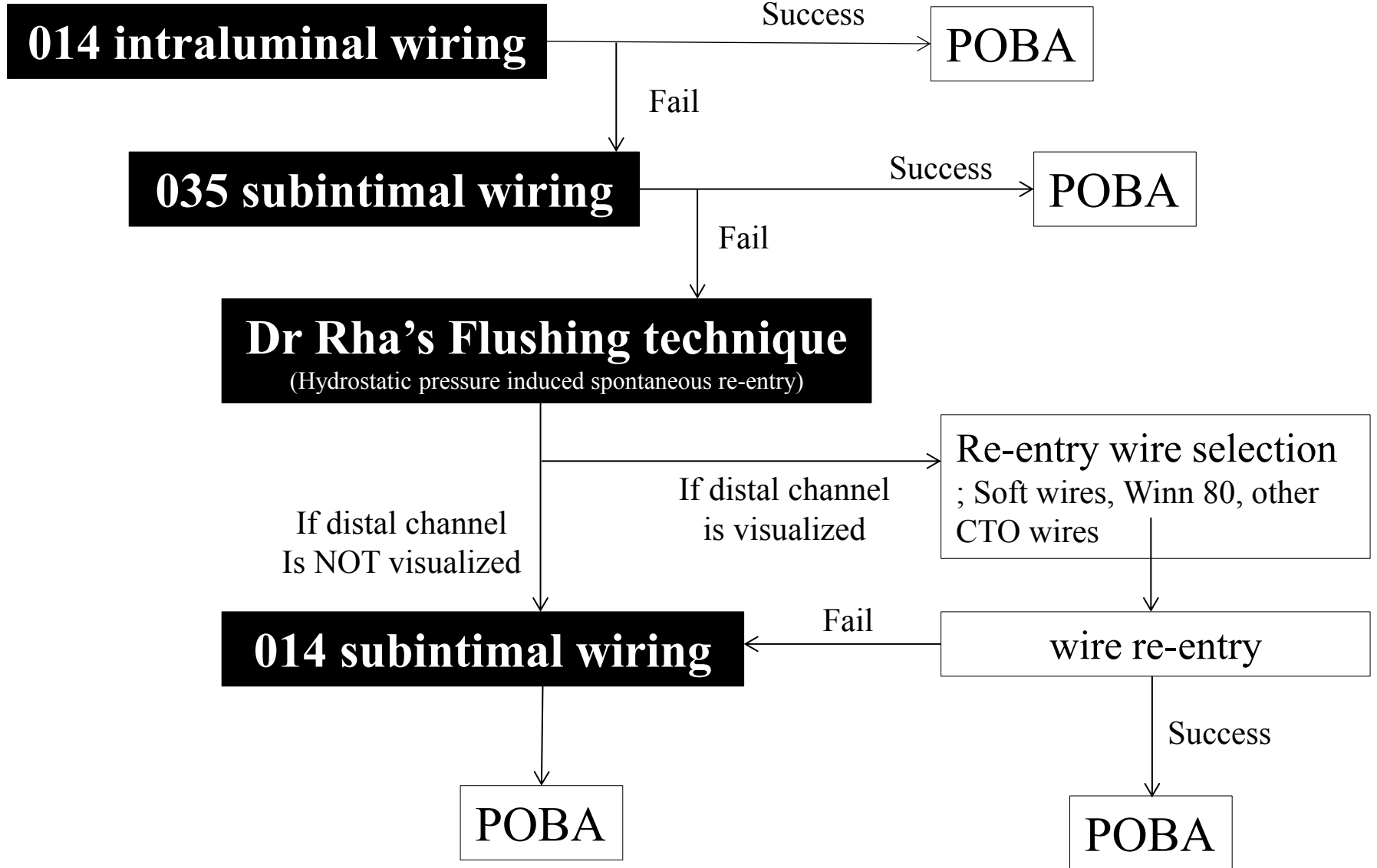
## CASE 2; 014 Subintimal Wiring ; Regalia (Ashai)



## CASE 2; 014 Subintimal Wiring; POBA and Final



# Summary; 4 major strategies for BTK CTO without distal stump





# Thank You for Your Attention!!

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