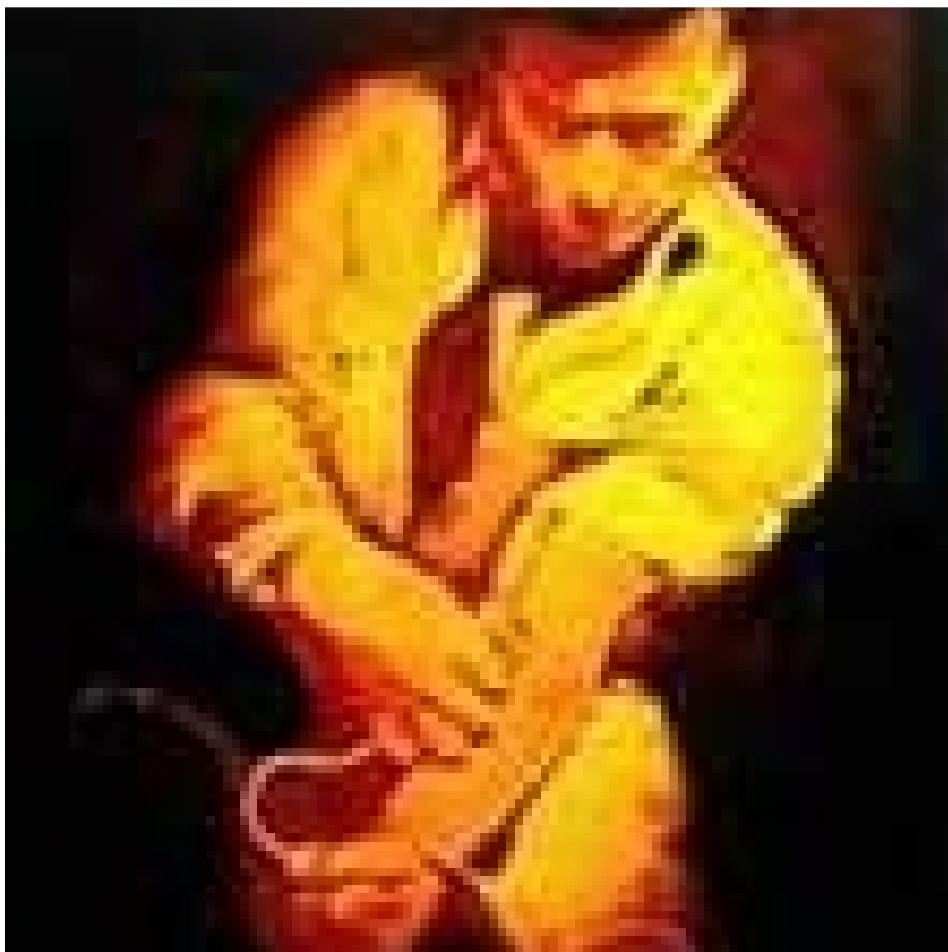


# 关于导引导管选择 及操作技术



## 导管发展史

- ◆ **1711** — Hales conducts the first cardiac catheterization of a horse using brass pipes, a glass tube and the trachea of a goose.



◆ 1929年，德国外科医生  
Werner Forssmann将一根  
导尿管插入自己心脏，这  
是插入人体心脏的第  
一根导管。  
Nobel Prize, 1956

For his pioneering efforts.

◆ **1958** — The diagnostic coronary angiogram – the key to selective imaging of the heart is discovered by **Mason Sones**.



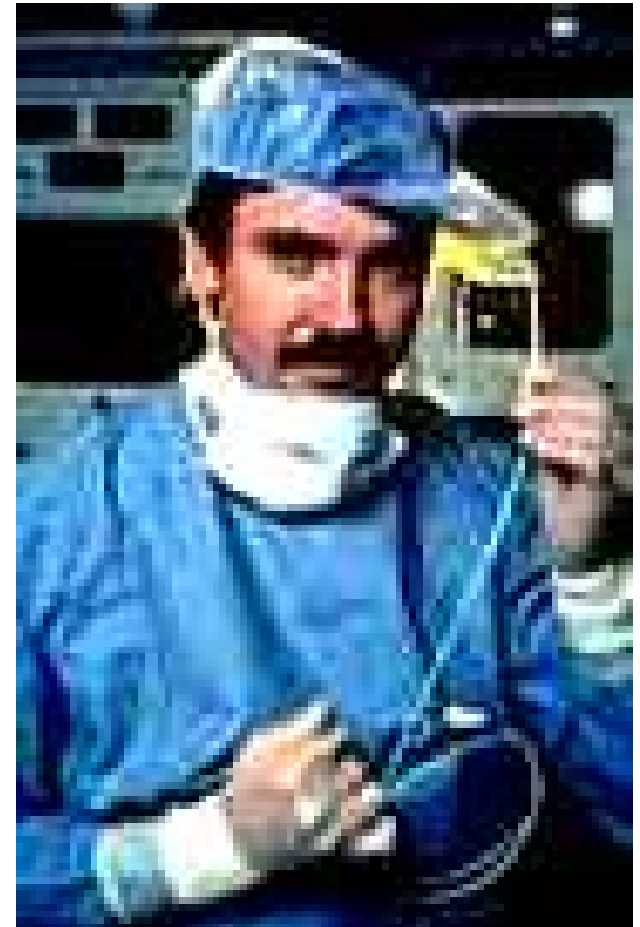
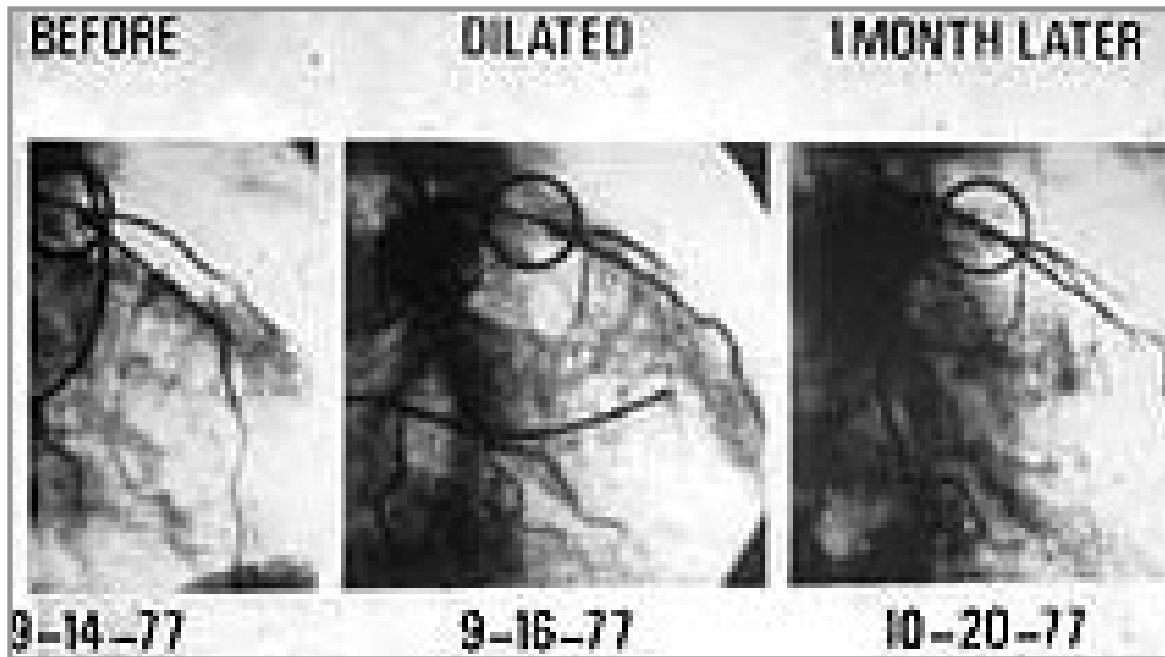
◆ **1964** — Transluminal Angioplasty, the concept of remodeling the artery, is introduced by **Charles T. Dotter**.



◆1967年，Melvin P. Judkins设计冠脉造影专用导管



- ◆ 1977 – Gruentzig, performs first cath lab PTCA on awake patient in Zurich; starting with this case, all PTCA data is entered into a worldwide registry

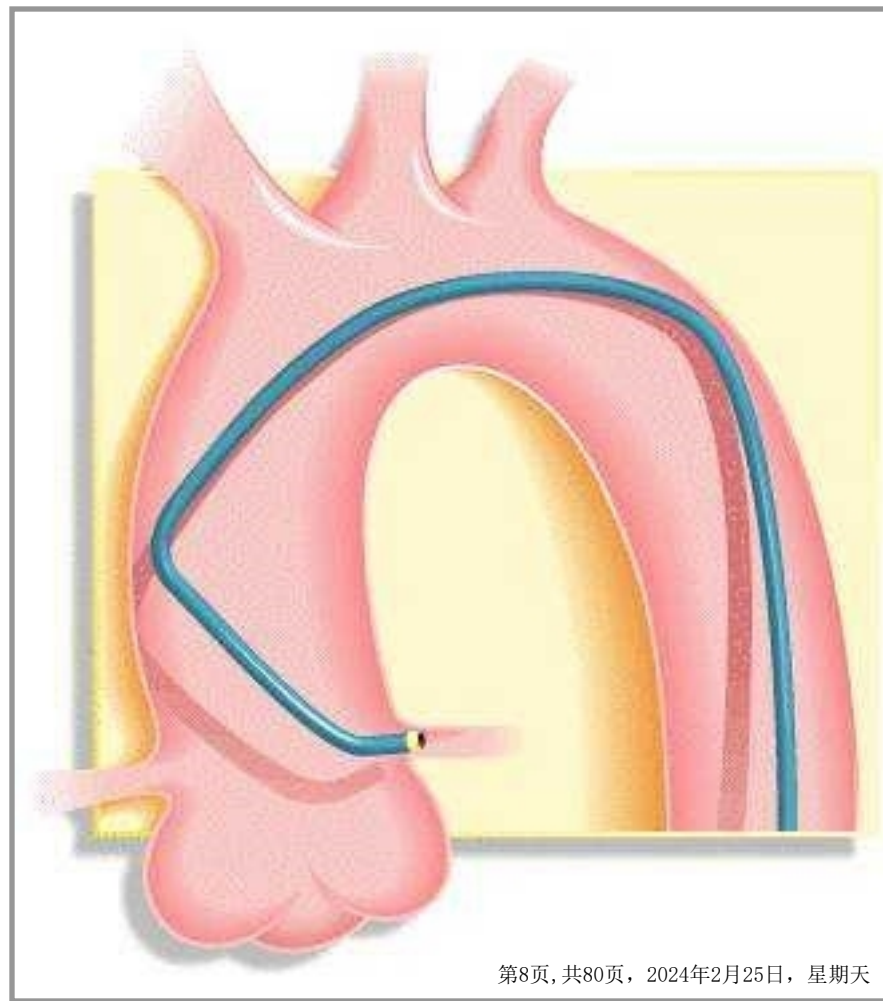


# 导引导管功能

- ◆ 输送各种介入器械
- ◆ 支持作用
- ◆ 注射造影剂及各种相关治疗、抢救药物
- ◆ 血流动力学监测

## 导引导管选择要求

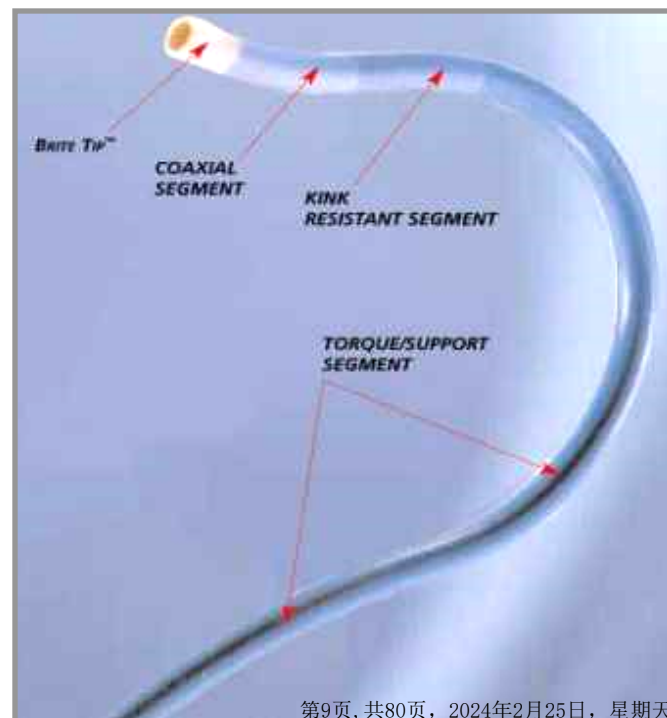
- ◆ 创伤小
- ◆ 同轴性好
- ◆ 支撑力好
- ◆ 足够管腔直径





## 导引导管节段

- ◆ 柔软的可视头端（安全区）
- ◆ 柔软的同轴段（柔软区或传送区）
- ◆ 中等硬度的抗折段（支撑区）
- ◆ 牢固的扭控段（扭控区或推送区）



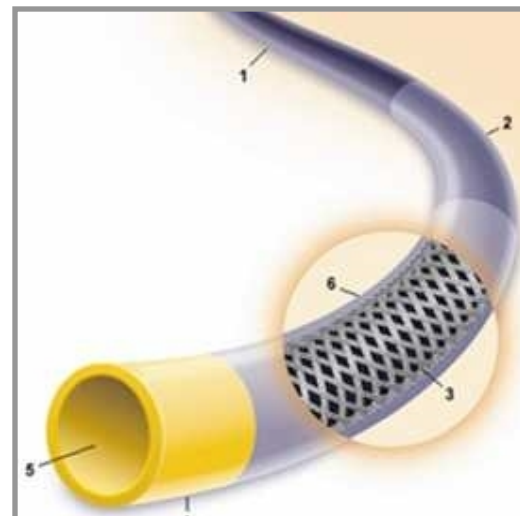
# 导引导管构造

外层 — 聚乙烯塑料

决定导管形状、硬度和与血管内膜间的摩擦力

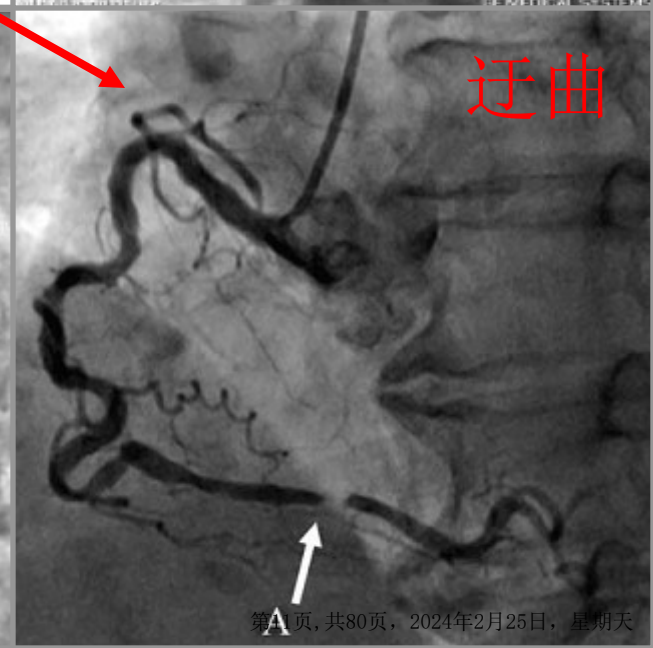
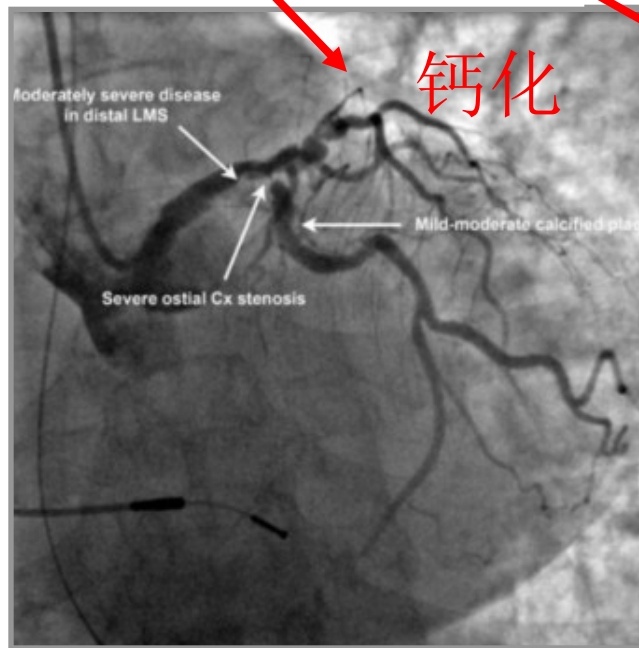
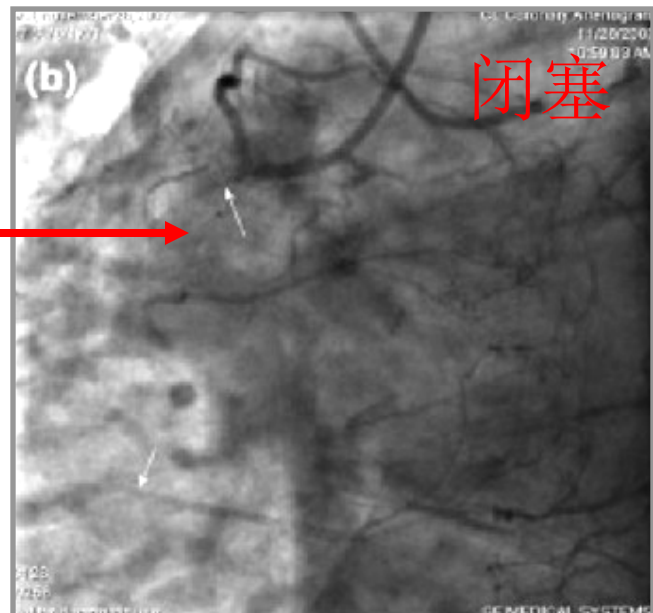
中层 — 12-16根钢丝编织成，使导管具备抗折断、抗扭曲、顺应性和弹性（不同厂家编织方式不同）

内层 — 尼龙聚四氟乙烯（PTFE）涂层，减少导丝、球囊、支架与导管内腔间摩擦力，抗血栓



# 导引导管性能参数

- ◆ 支撑力
- ◆ 内径大小
- ◆ 顺应性
- ◆ 扭控性
- ◆ 抗折性



# 导引导管支撑力

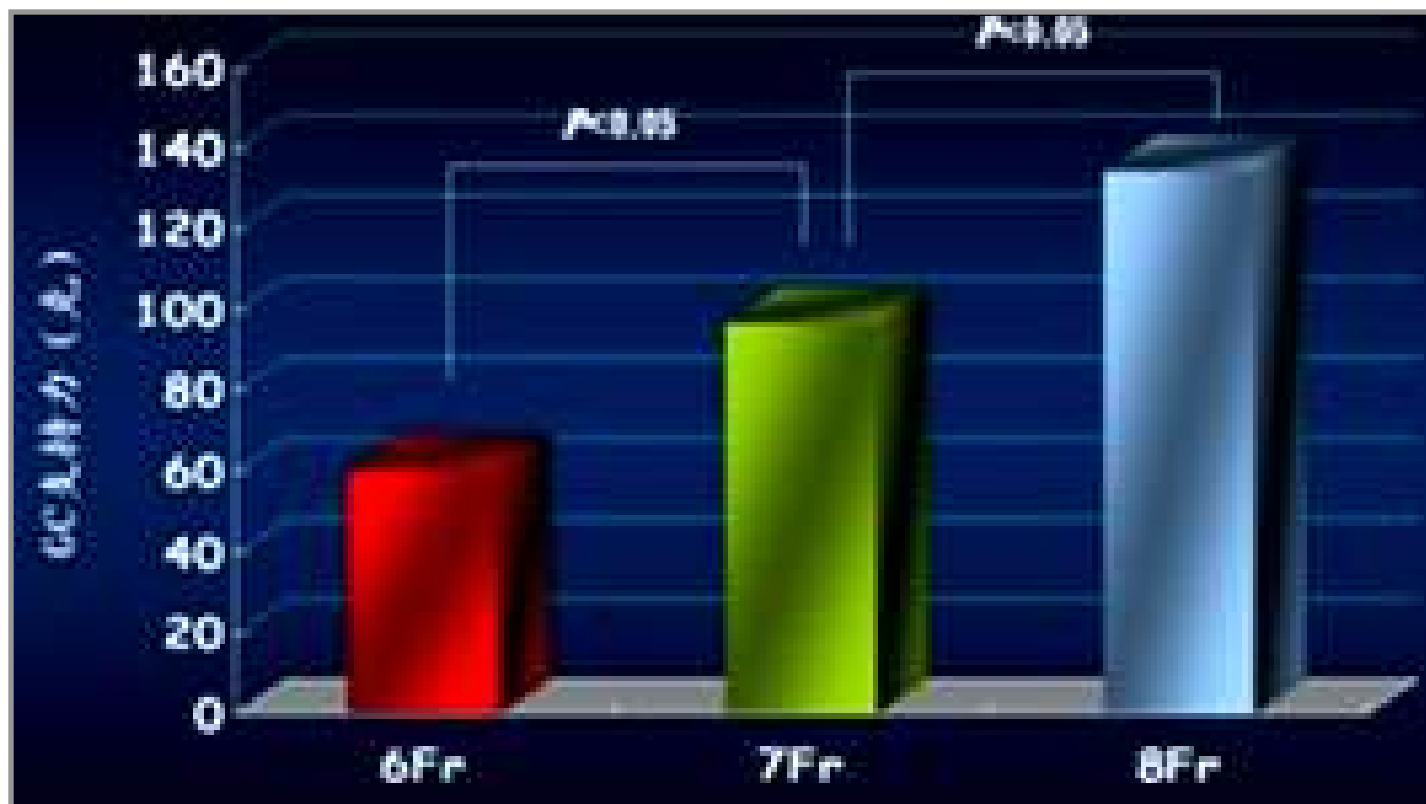
- ◆ 被动支撑（通过导管结构和外形获得支持）
- ◆ 主动支撑（术者操作获得）



## 被动支撑力

取决于直径、结构、导管与主动脉壁接触面积和夹角。

1、直径越大、支持力越强。



## 2、中层钢丝编织方式

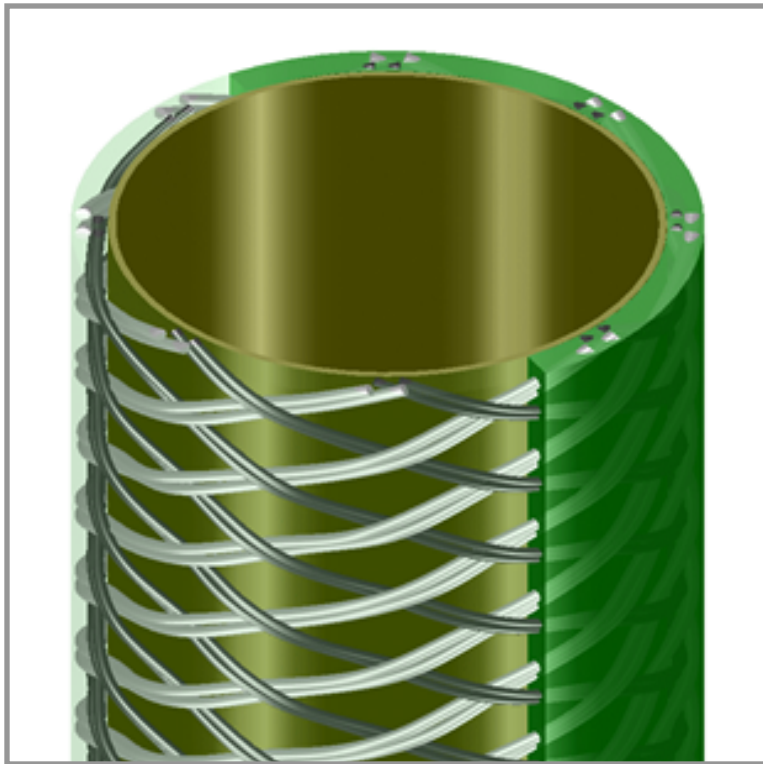
一圆一扁钢丝编织成的相对较硬、支持力强；扁平钢丝编织成的导管柔软、支持力弱



Cordis Vista



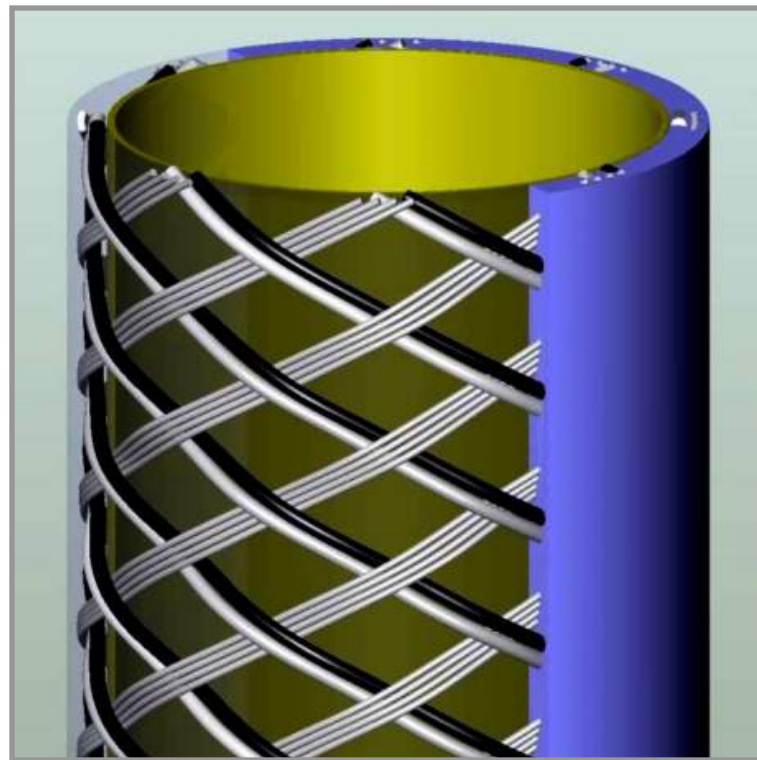
Medtronic Launcher



Boston Mach 1

◆ 2 X 2编织:

2根圆钢丝在另2根圆钢丝之上

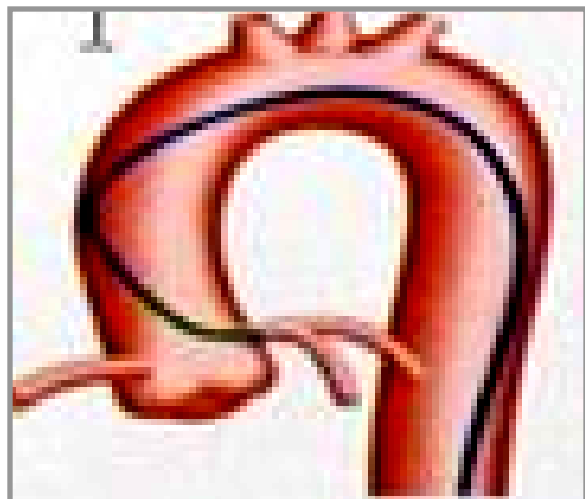


Boston Runway

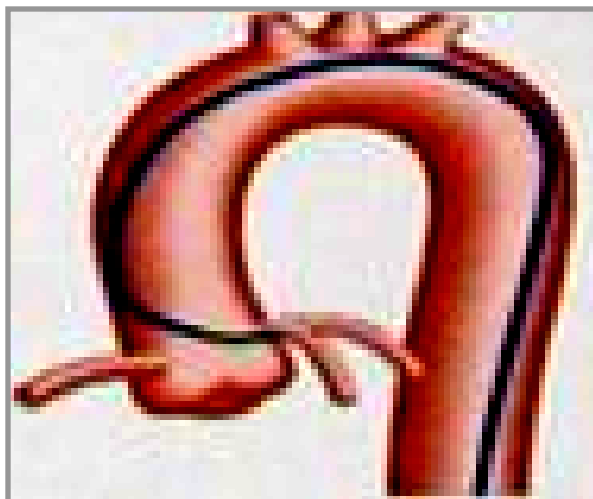
◆ 4 X 2编织:

抗折性、扭控性更好

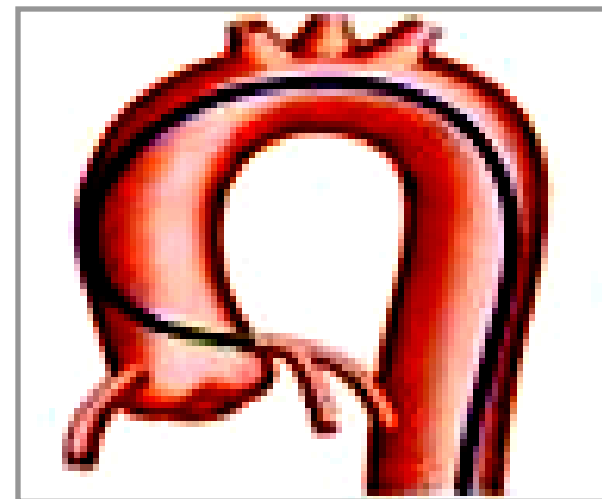
### 3、导管与主动脉内壁接触面积越大，支持力越强



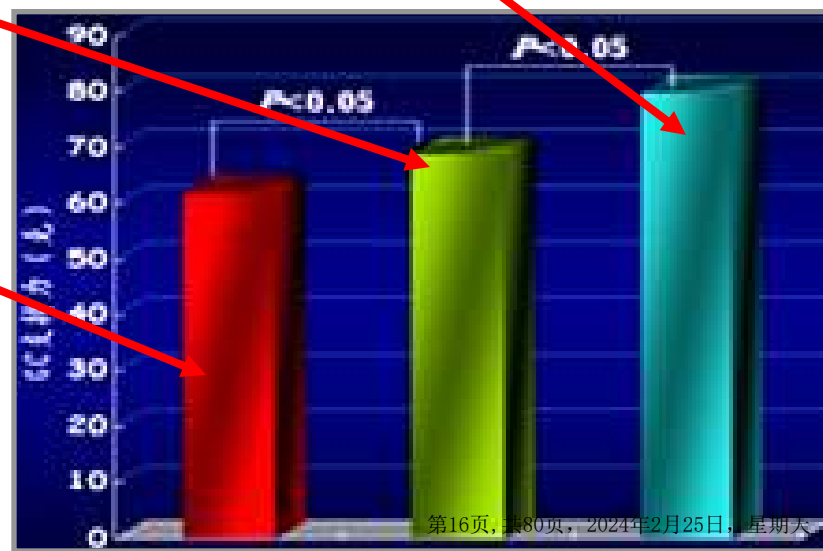
JL4.0



SL4.0



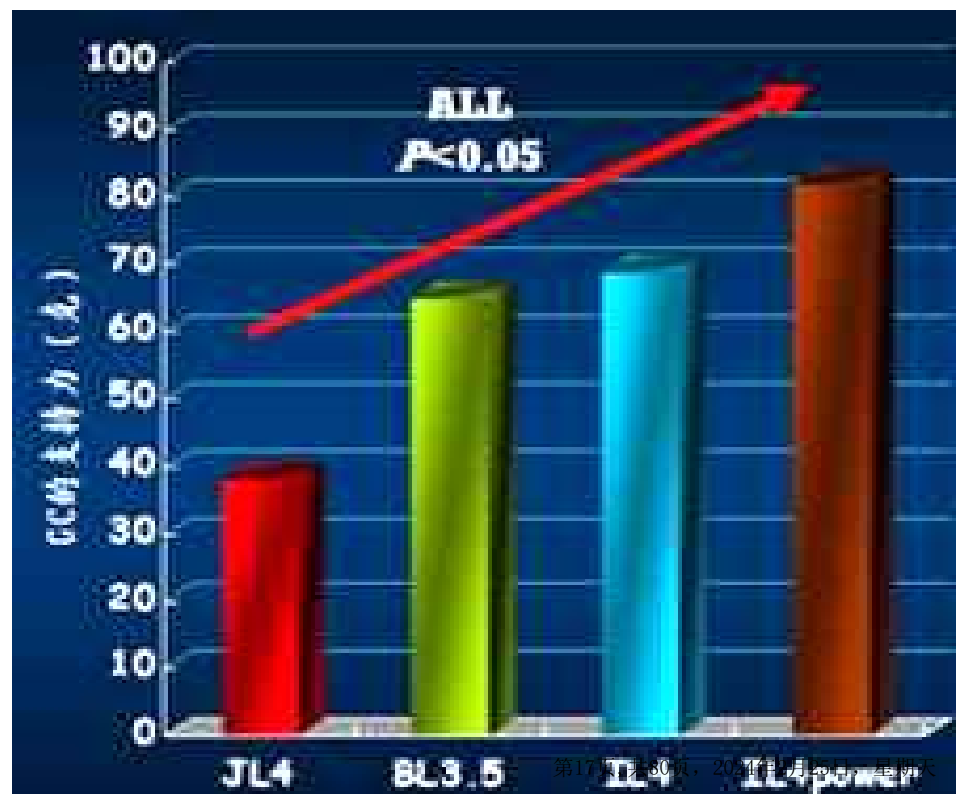
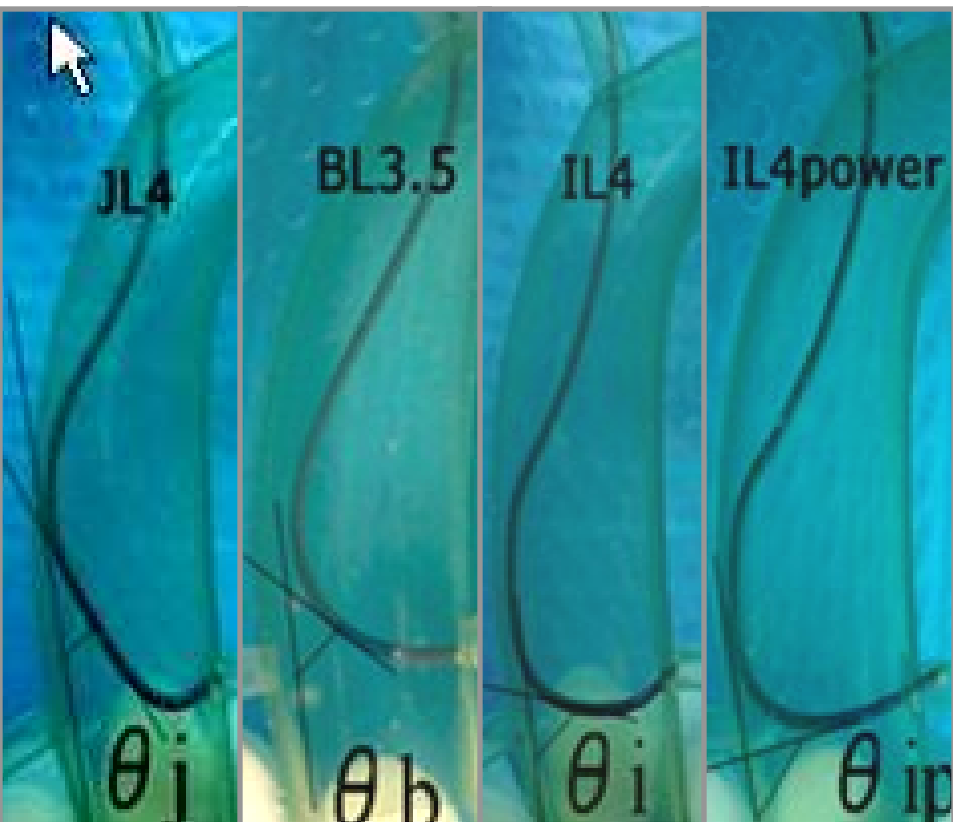
EBU3.75





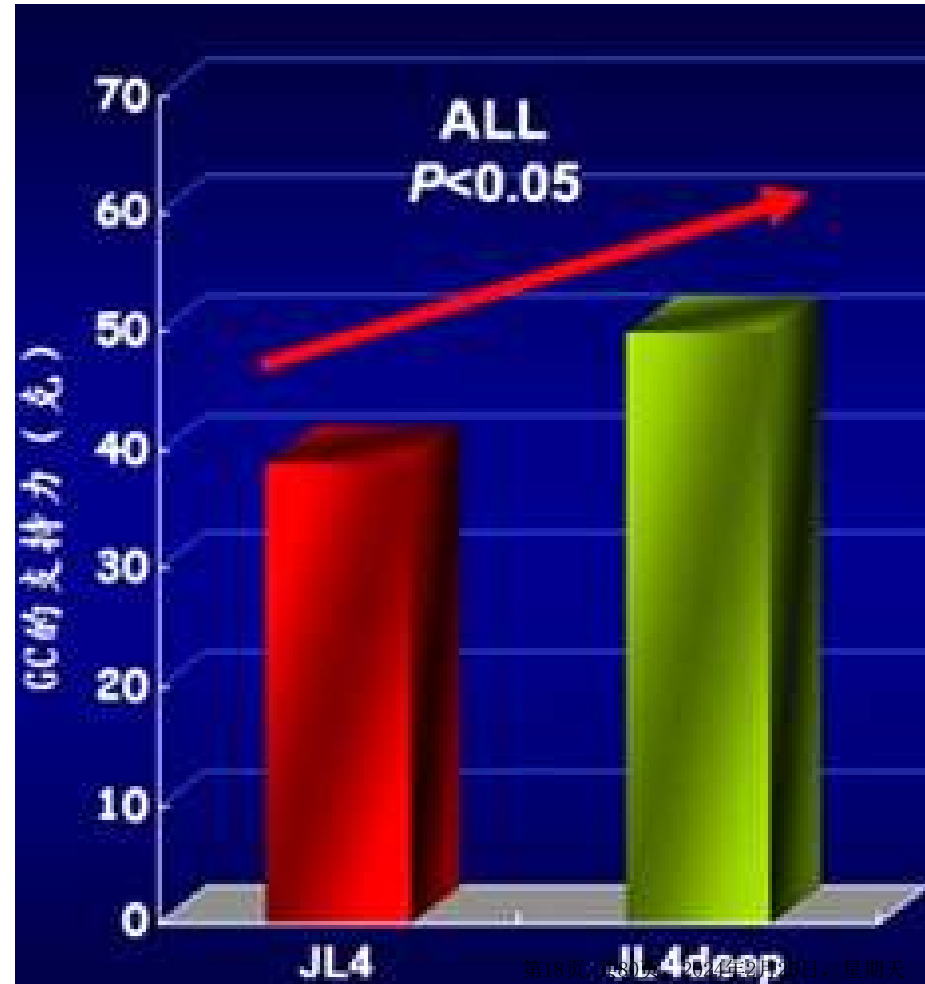
## 4、导管与主动脉夹角

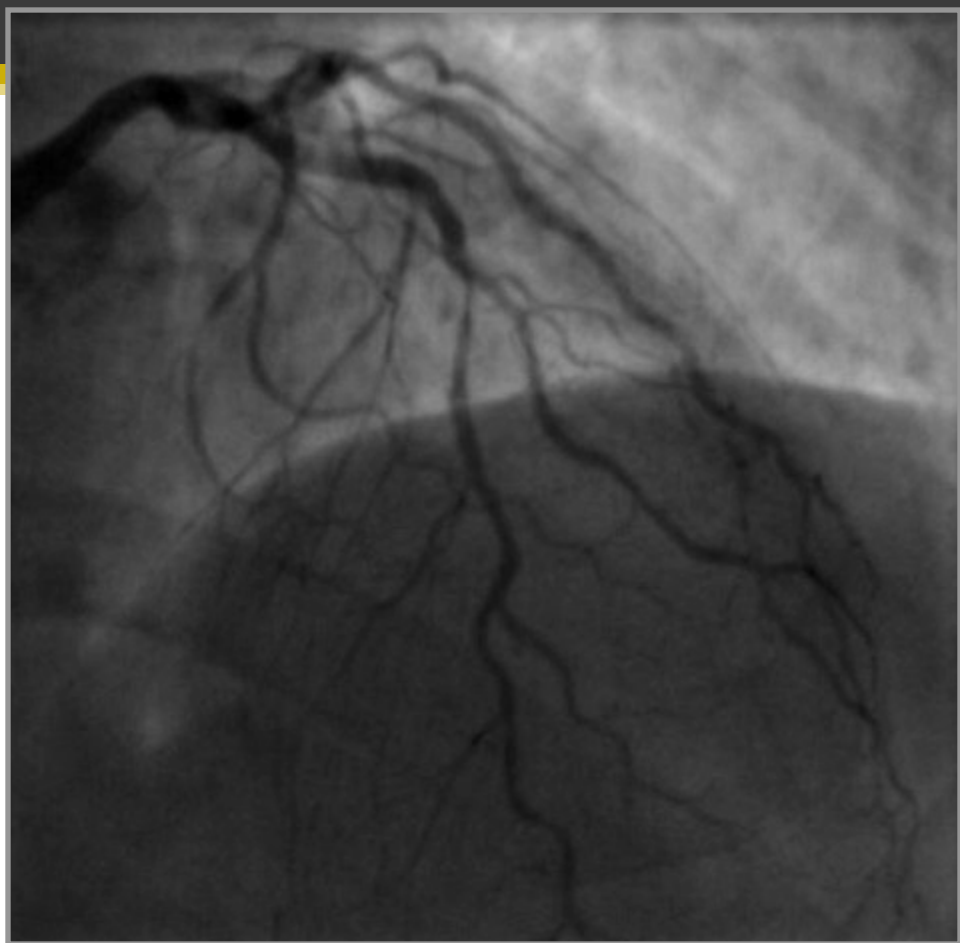
越接近90度，支持力越强，夹角越小，越差。



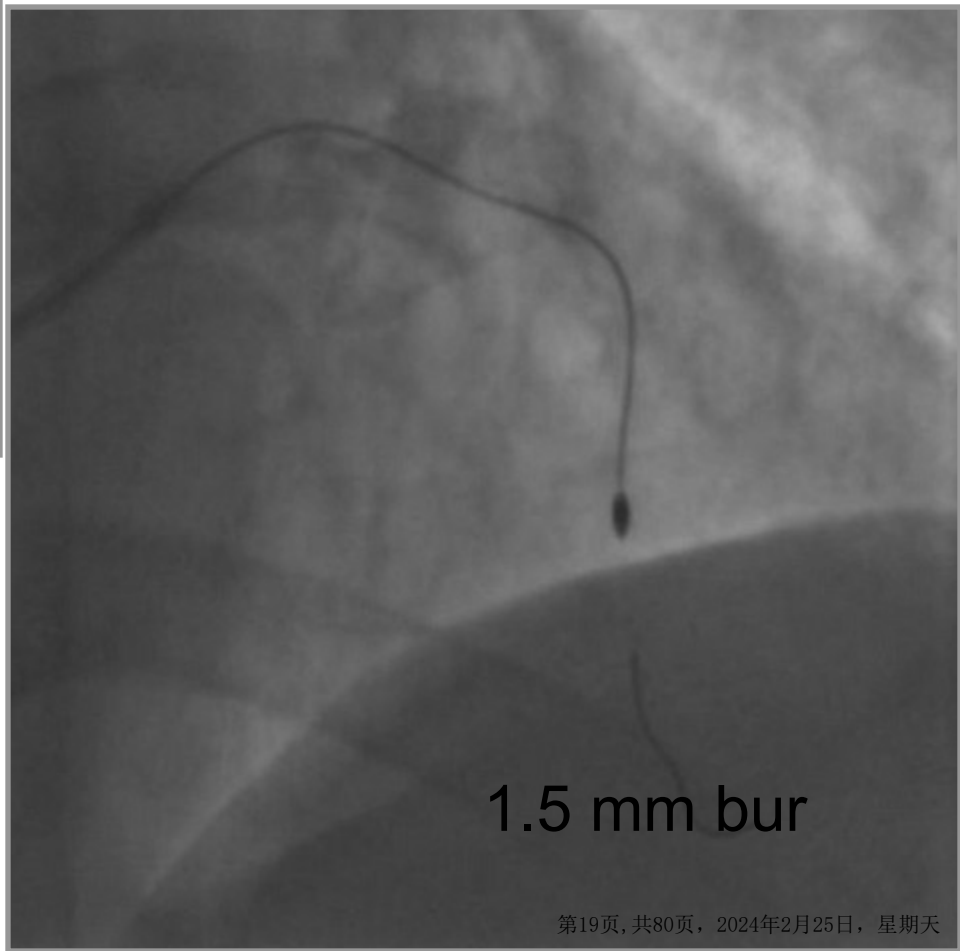
# 主动支撑力

Deep seating使其与主动脉夹角更趋于90度





6F EBU

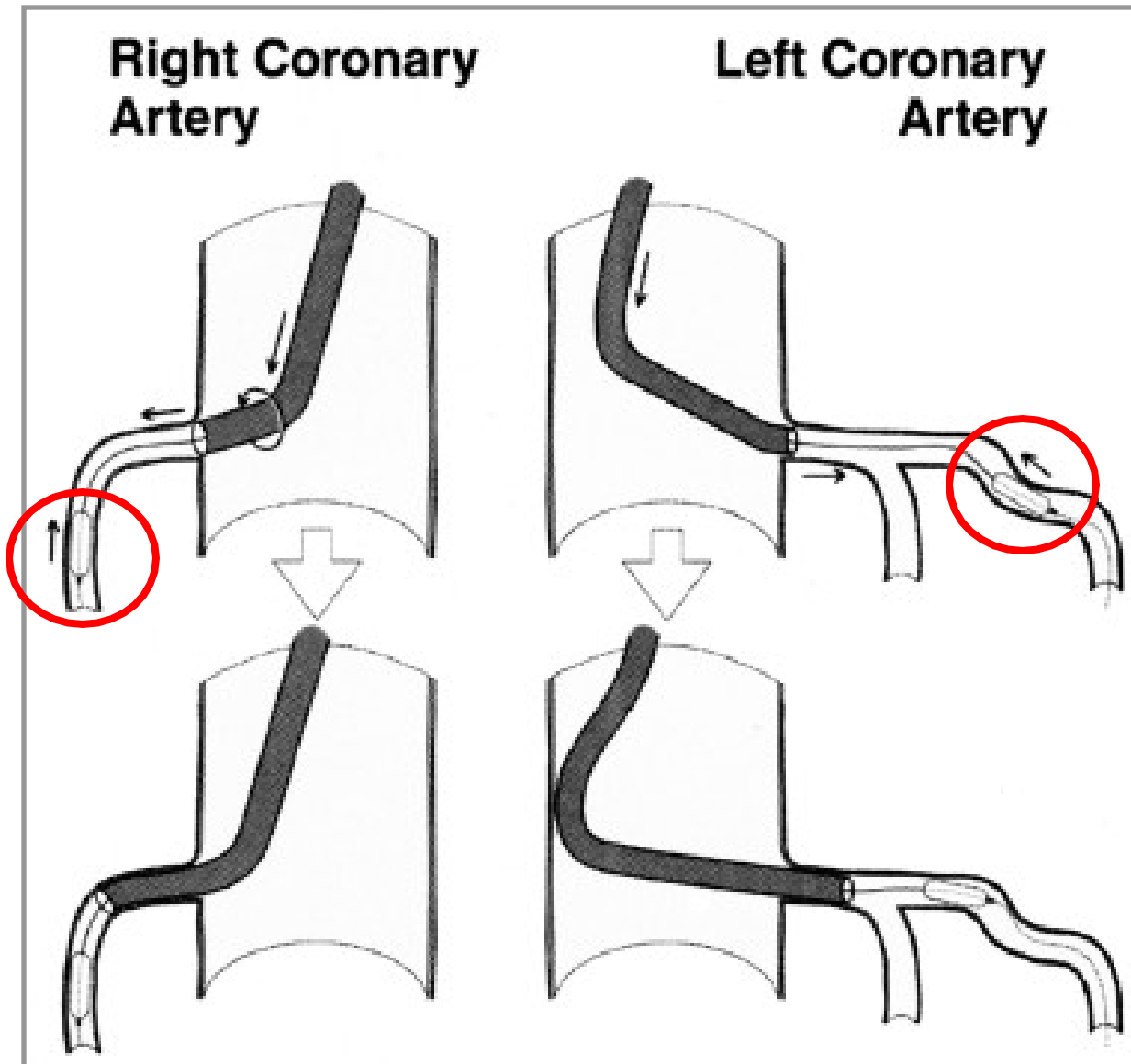


1.5 mm bur

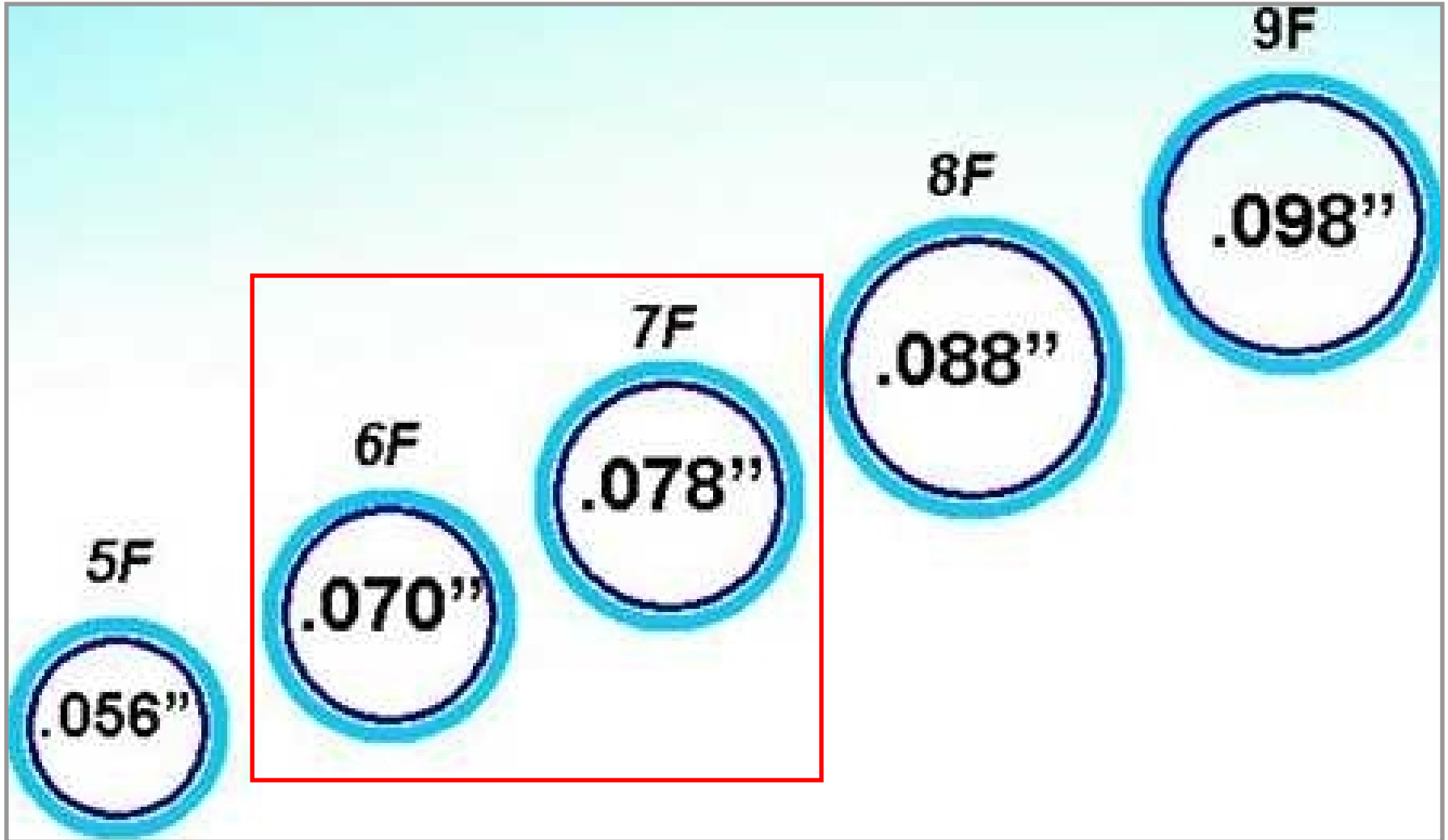
5F EBU

Deep seating

## 深插方法（避免开口部损伤）



## 内径大小

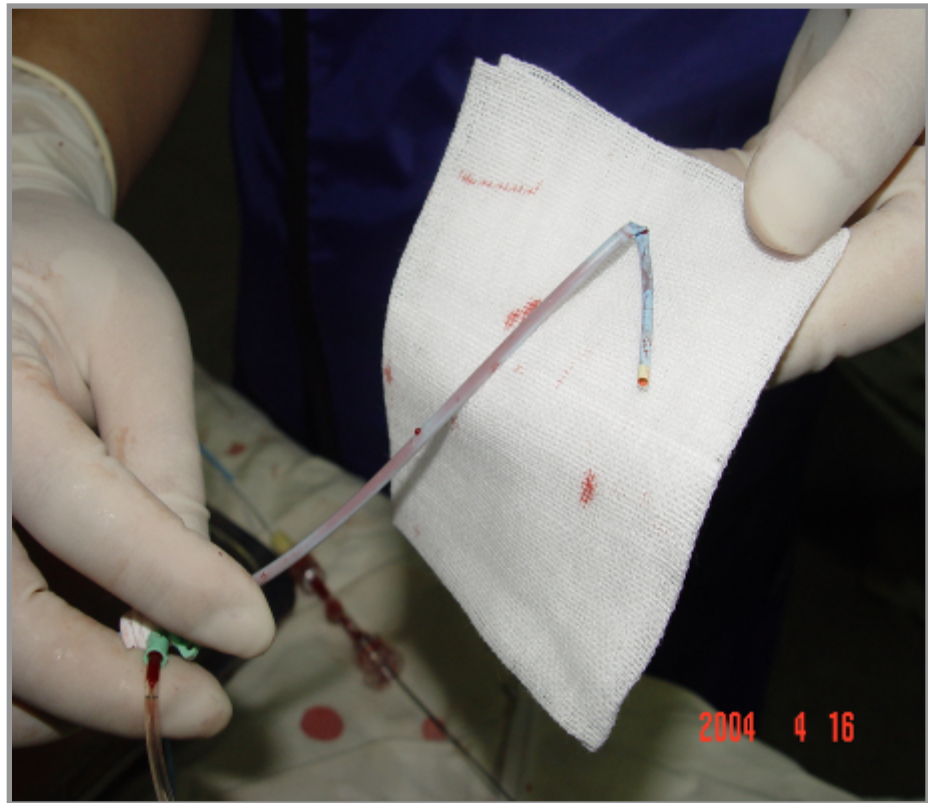
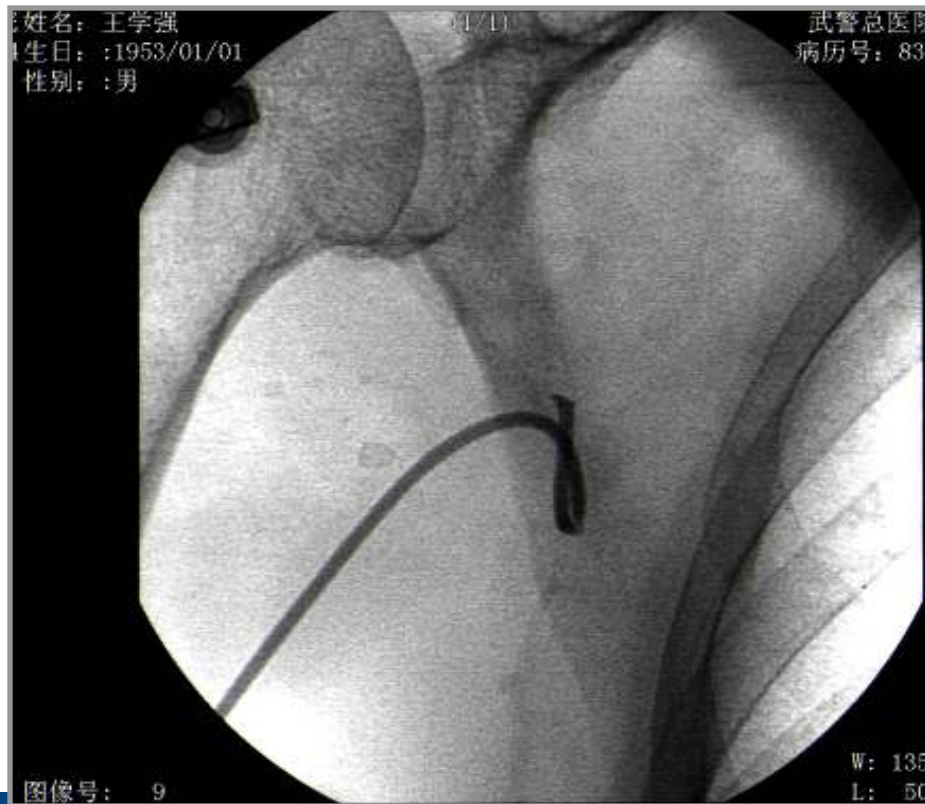


## 扭控力、抗折力

指导管旋转、操控能力——

polymer特性

取 决于钢丝编织方式和



## 导引导管类型



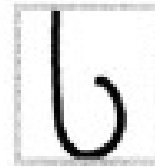
JL



SL



FL



JCL



VL



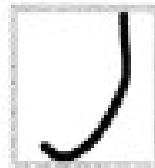
GL



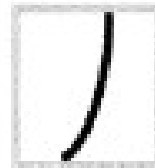
XB



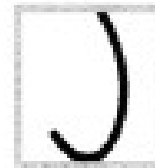
JR



FR



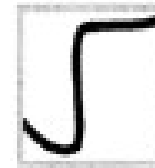
SR



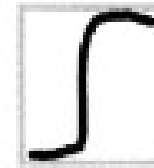
SCR



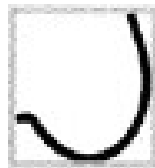
JCR



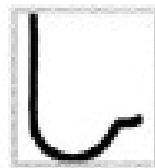
DA75



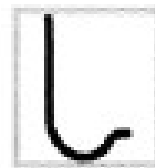
DA90



VR



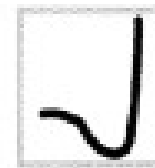
AL



SAL



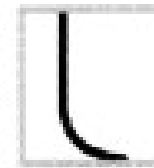
AR



ALR1-2



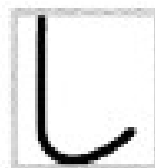
CAS



MB1



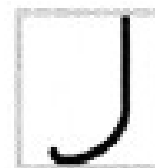
HS



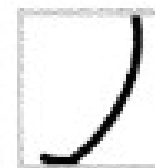
EL GAMAL



DC



LCB



RCB



IMA

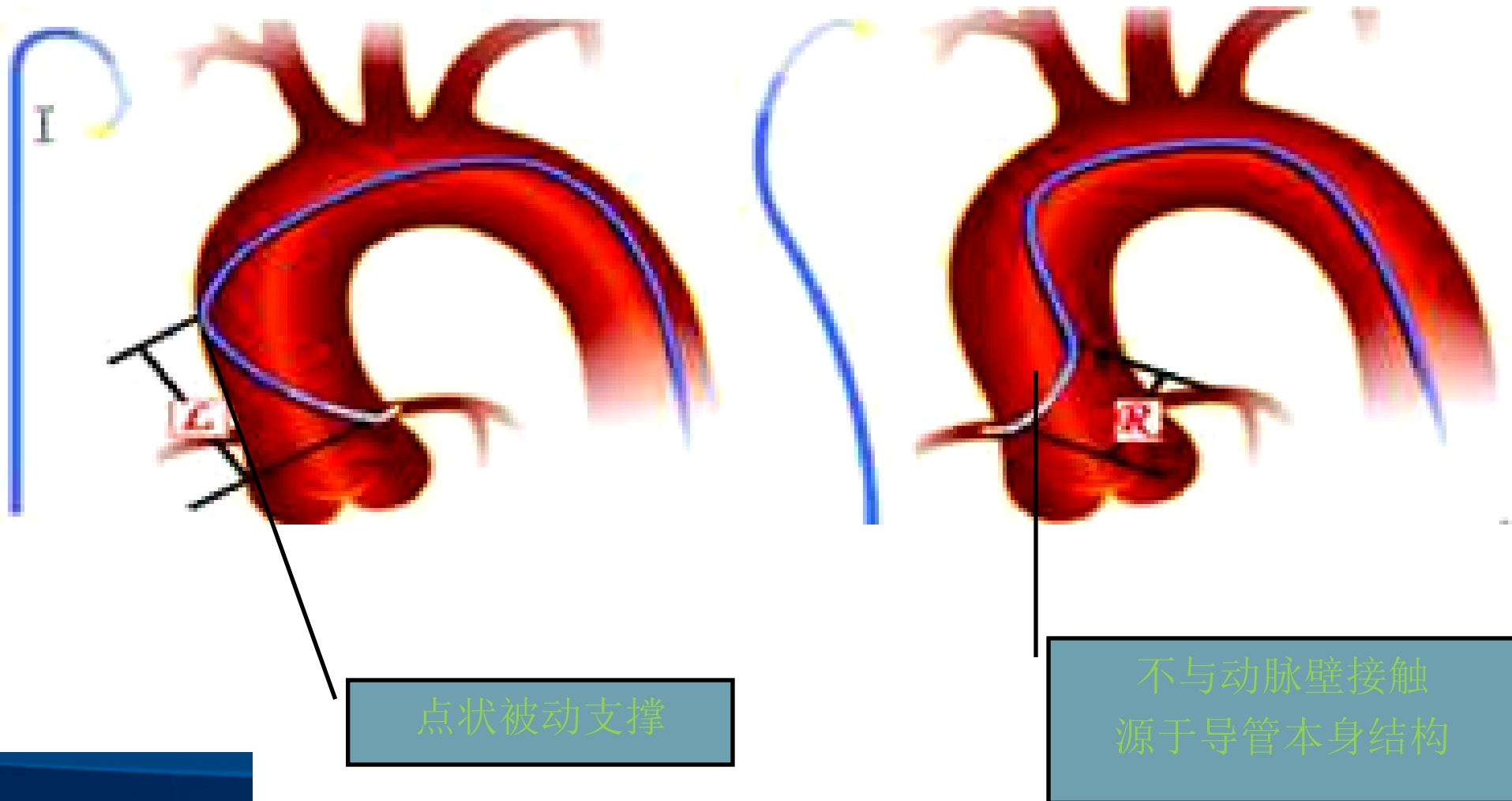


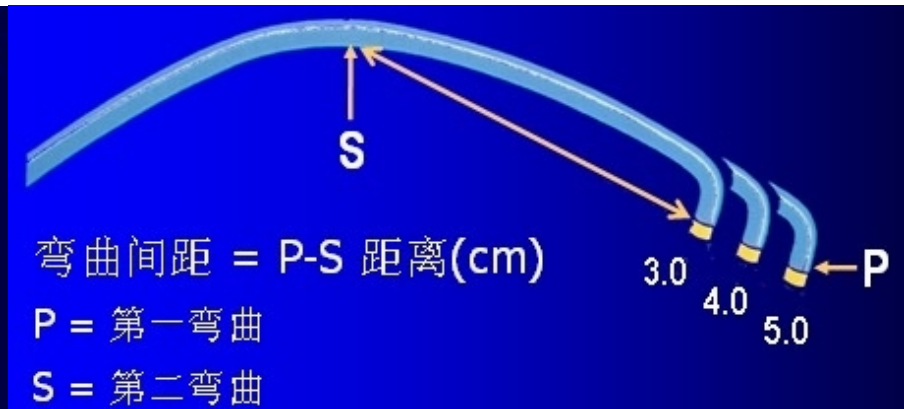
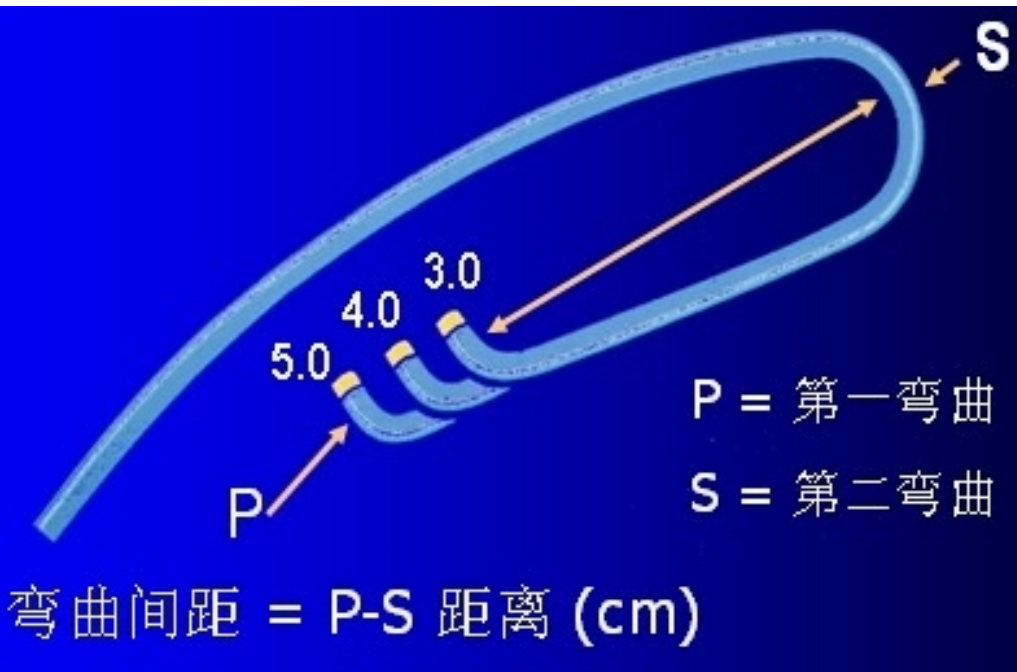
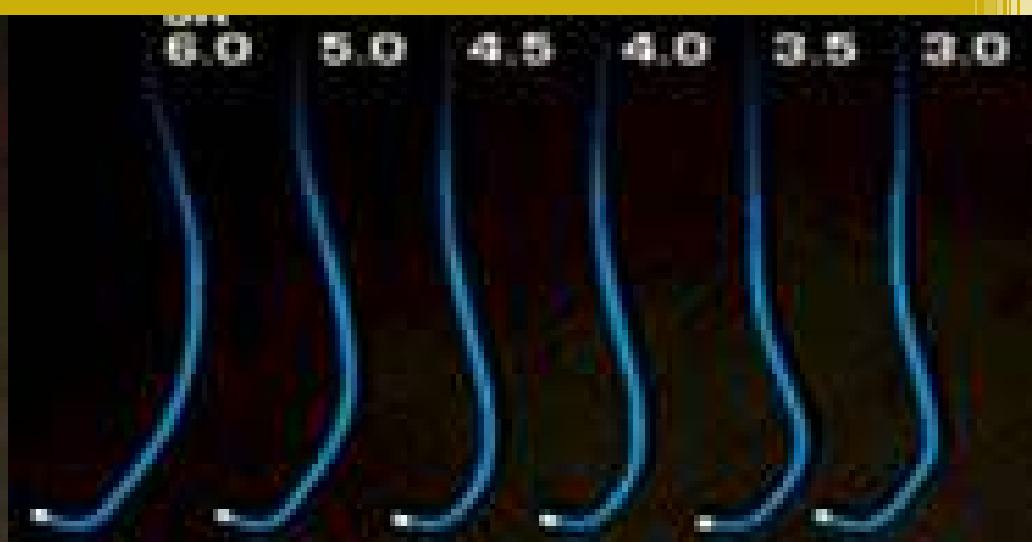
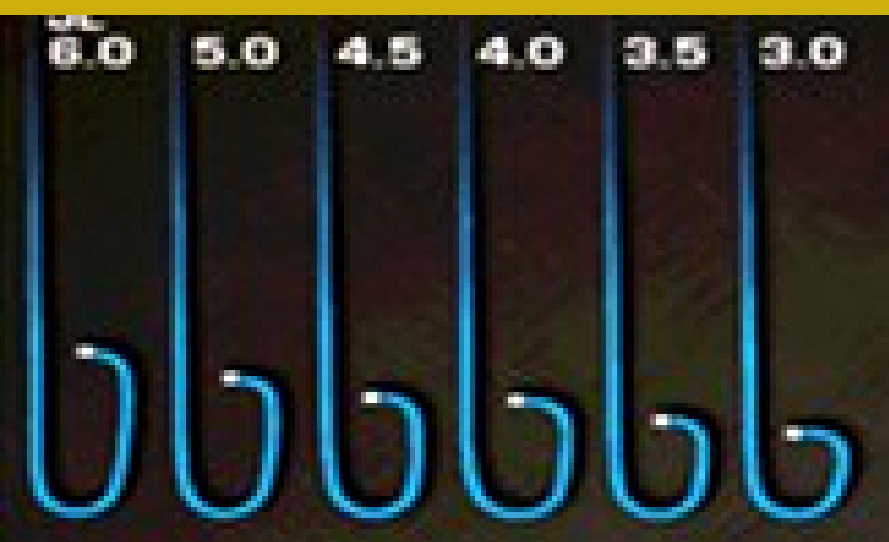
EBU



## 常用导引导管

Judkins导管（操作简单，适用于简单、中等难度病变）



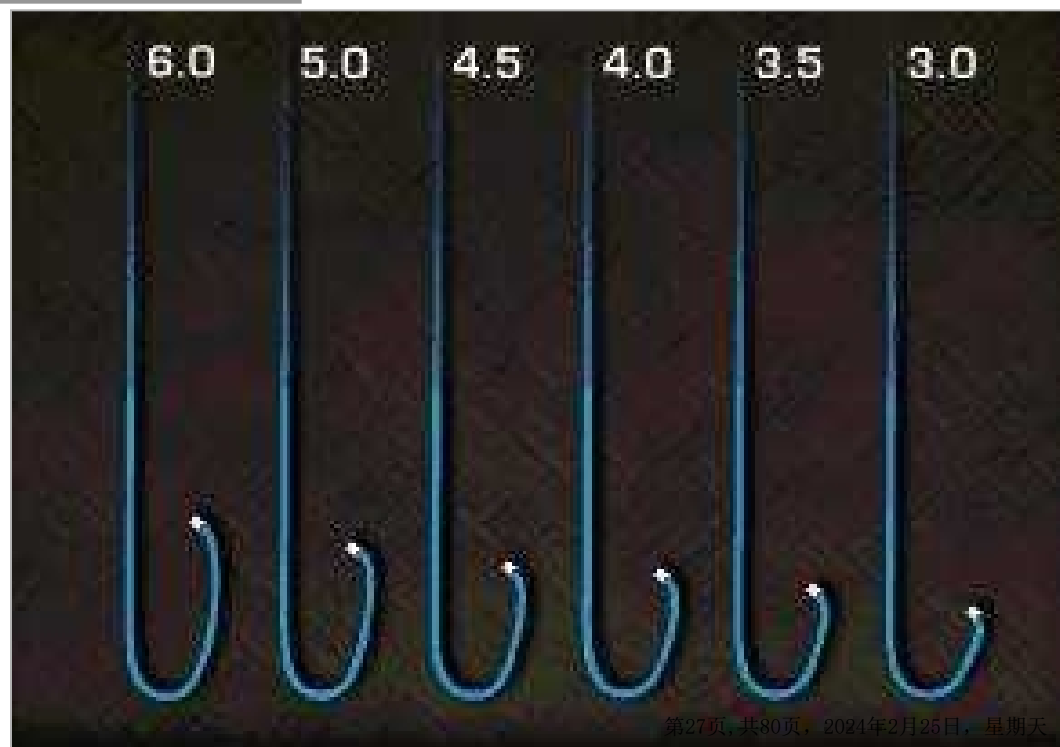


## Judkins导管型号



正常

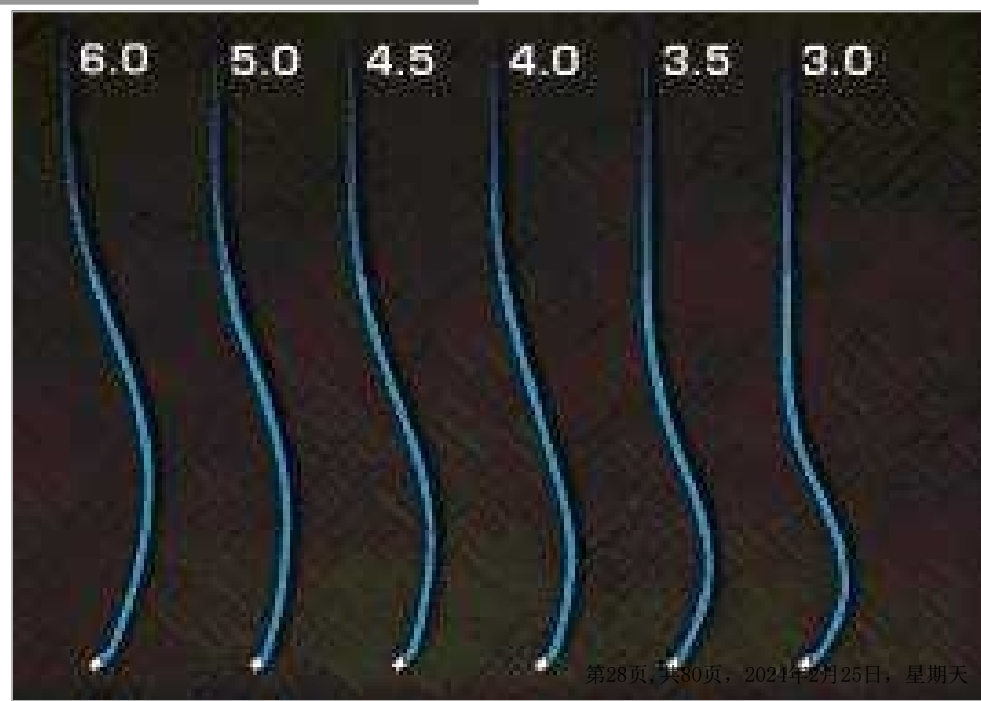
短头导管





正常

短头导管



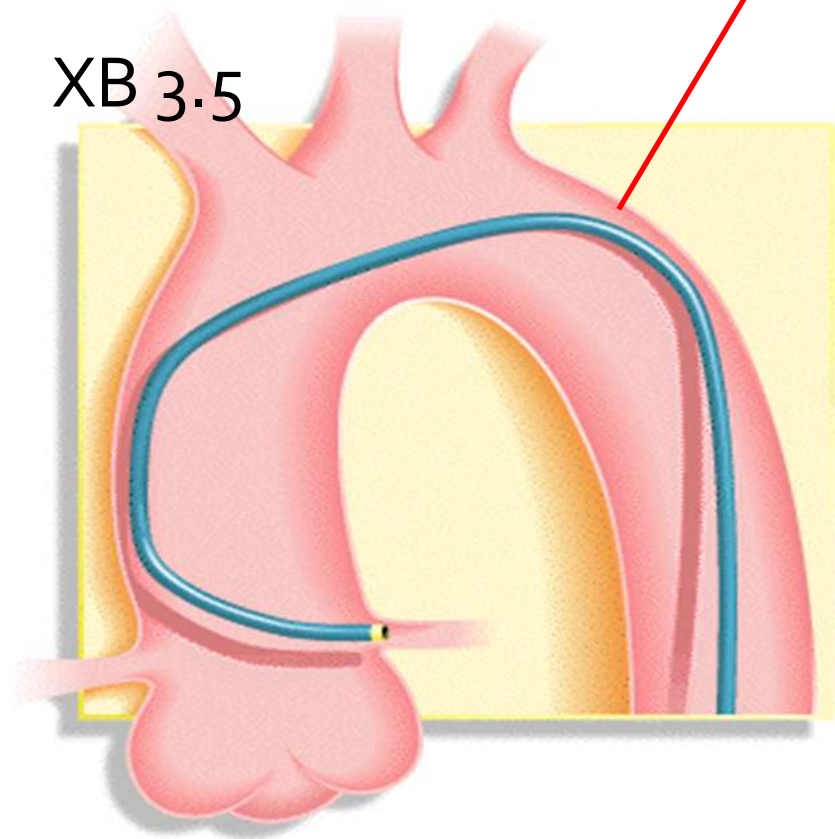
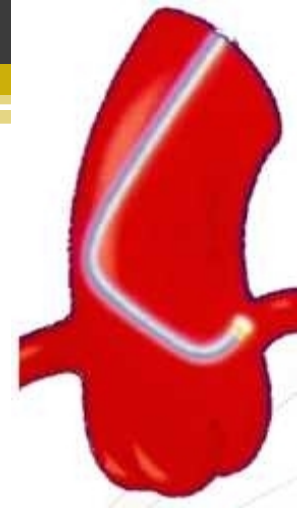
## Extra Backup类导引导管

Cordis Vista Brite Tip

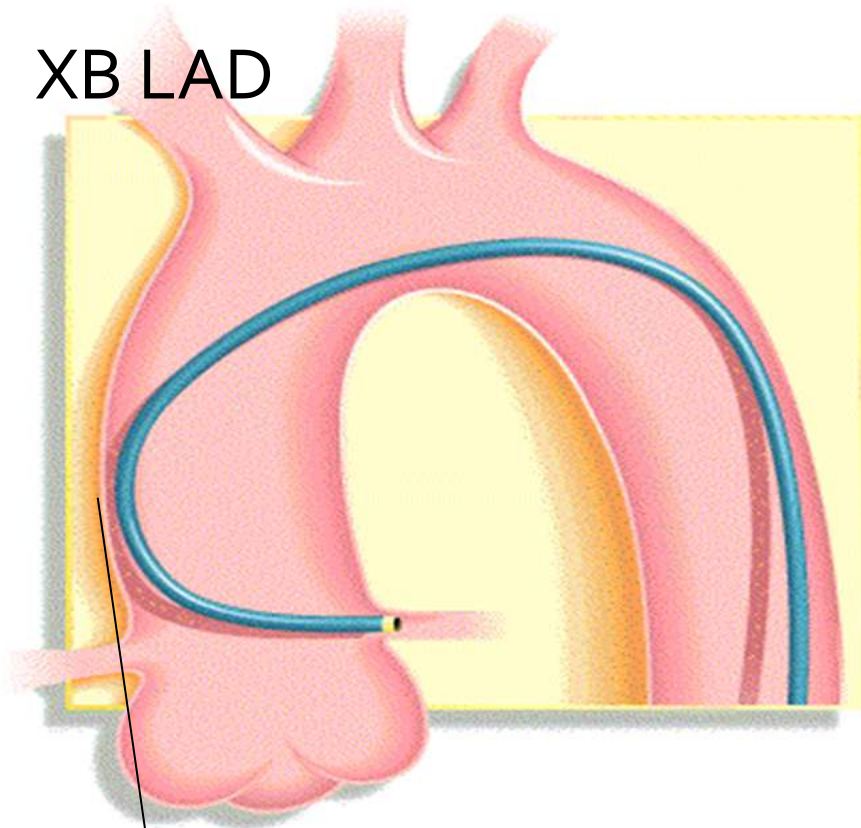
XB 3.5

支撑力较JL增加67%

- ◆ JL基础上改进
- ◆ 头端直线形，更好同轴
- ◆ 第二弯曲与左冠开口对侧主动脉壁贴合更长
- ◆ 选择XB应比JL小0.5

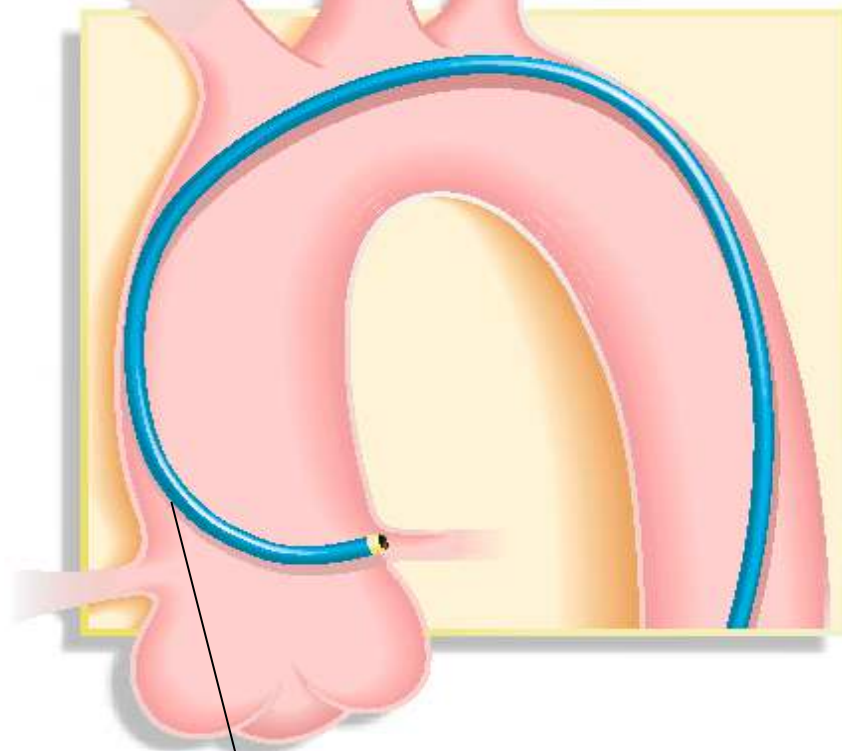


XB LAD

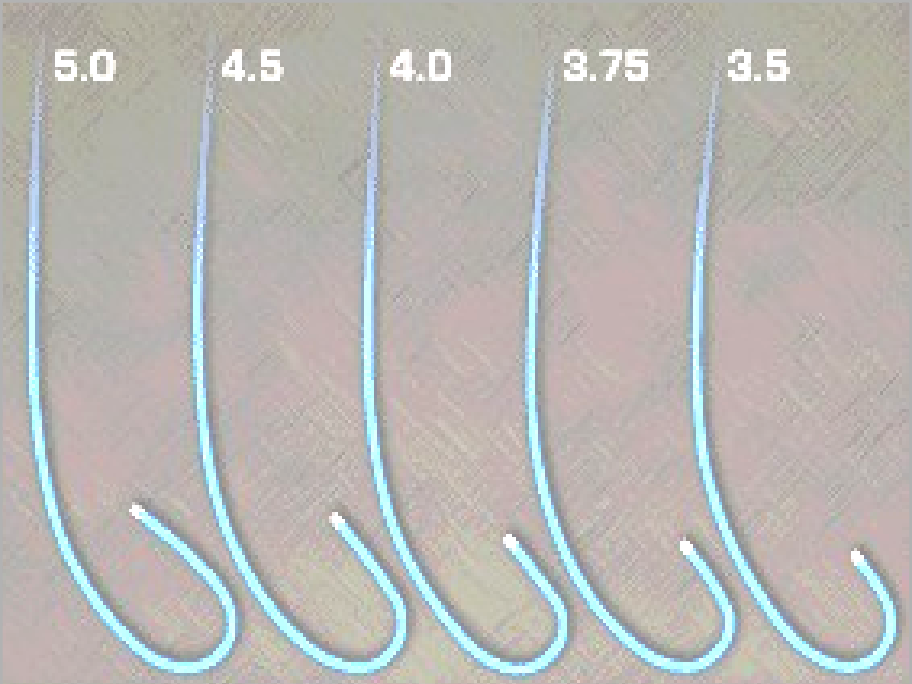


支撑力较JL增加50%

XB C



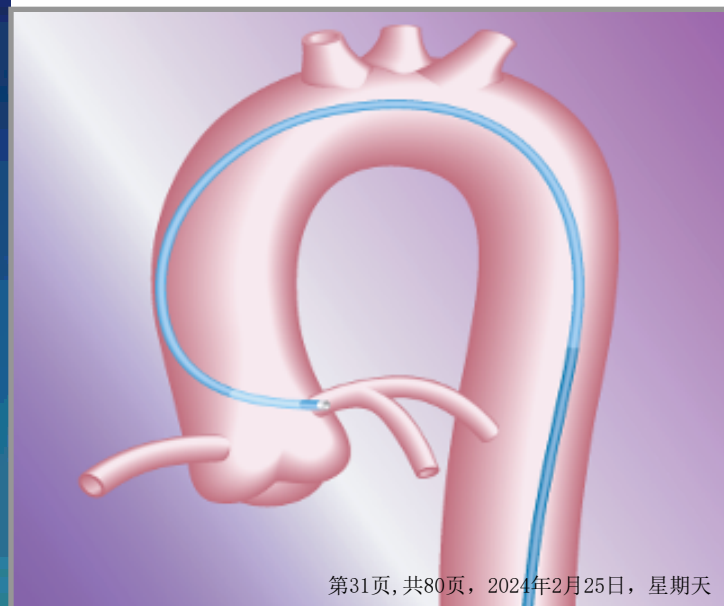
- ◆ 形状介于XB和XBLAD之间
- ◆ 操作方便



## Medtronic EBU

弧度较大的第二弯曲紧靠  
对侧主动脉壁。

Judkins Left Catheter Used	EBU Curve Used
JL 3.5	EBU 3.5
JL 4.0	EBU 3.75 will engage 2–3 mm into the ostium EBU 4.0 will engage 3–5 mm into the ostium
JL 4.5	EBU 4.5
JL 5.0	EBU 4.5

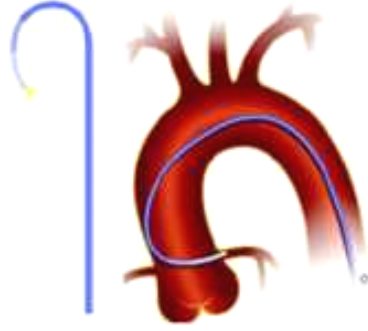


# Boston left specialty curves

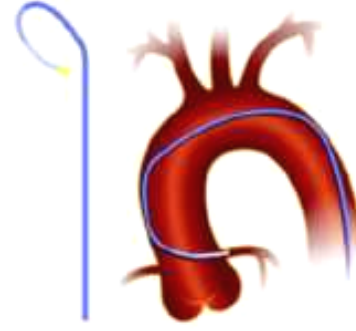
CLS® Curve



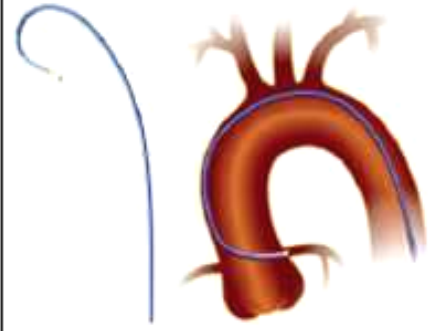
Q-Curve®



Voda Left® Curve



NEW Left Back-Up

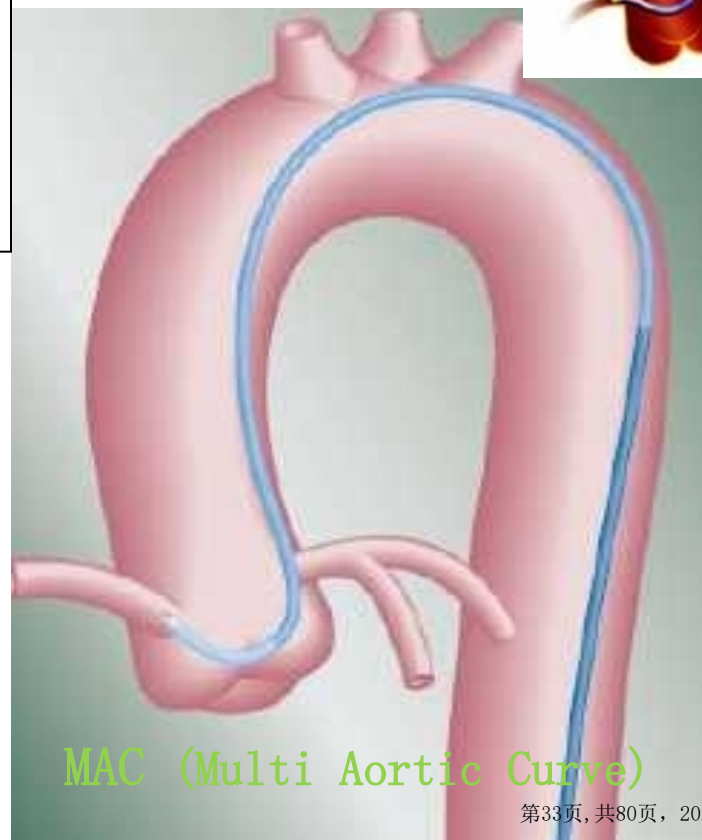
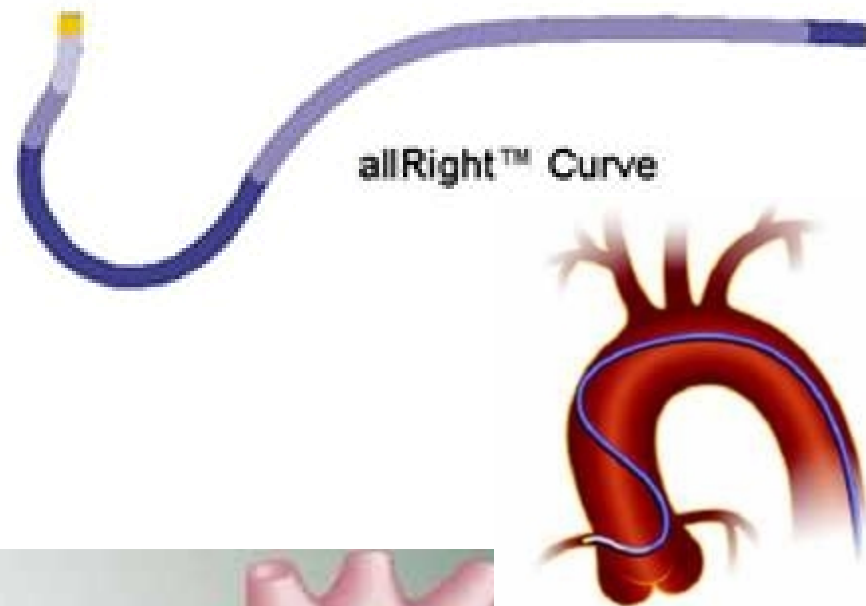
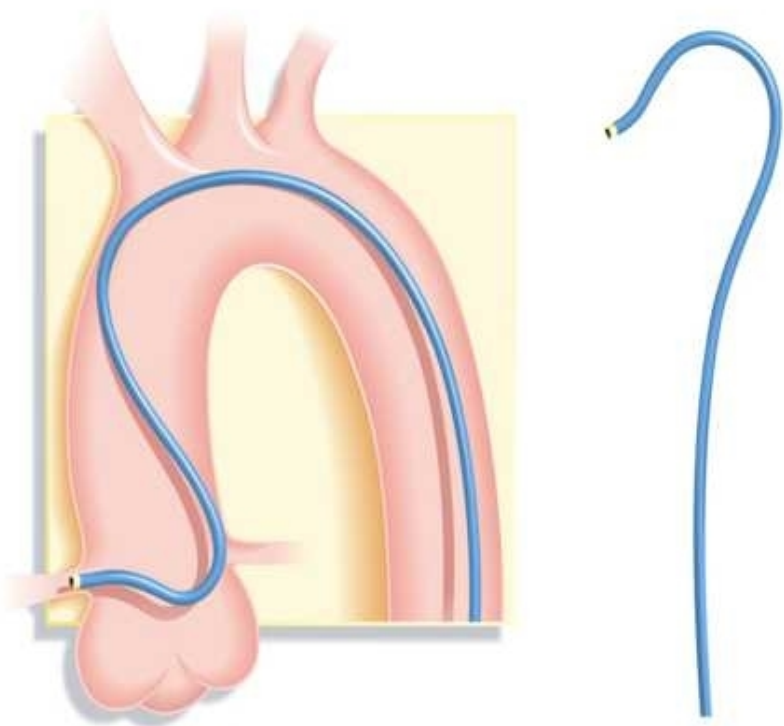


LAD  
通常选Q curve 4

通常选Voda 3.5

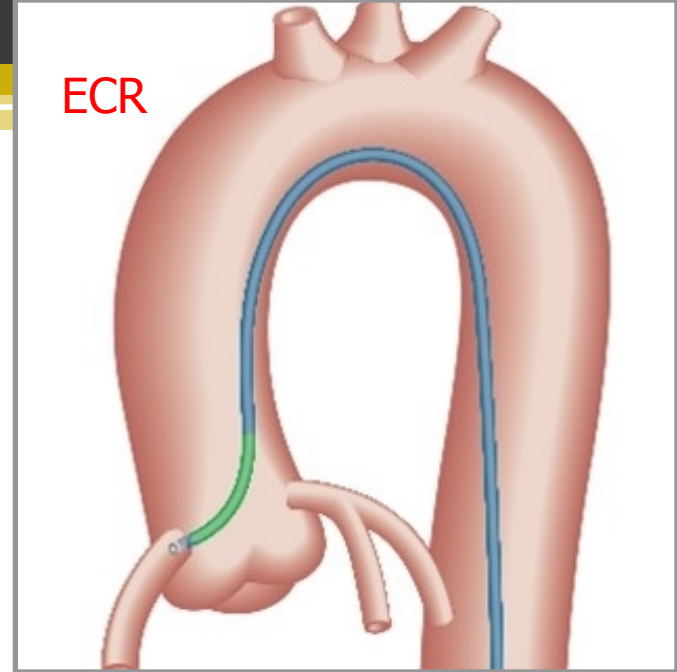
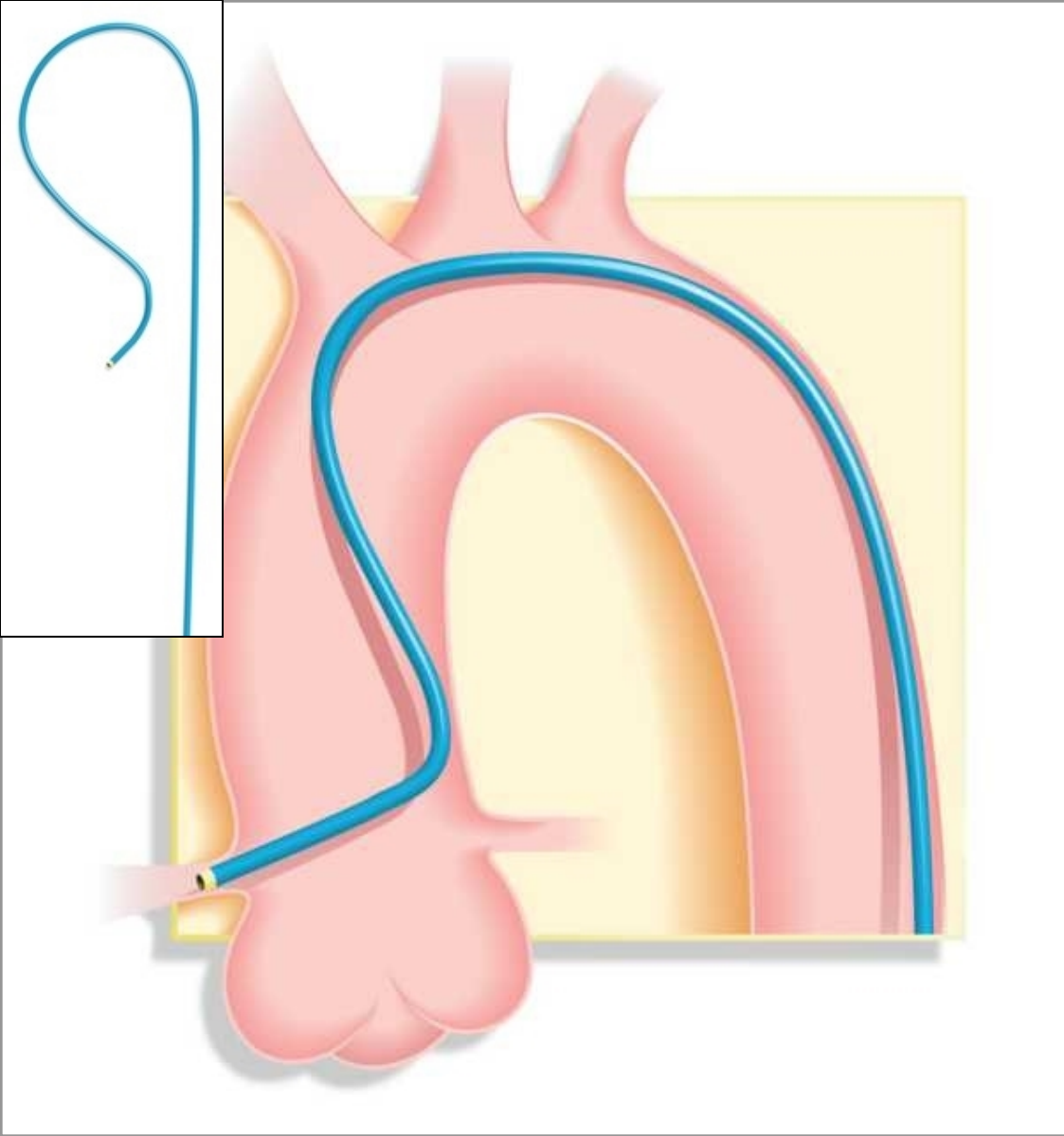
支撑力更好



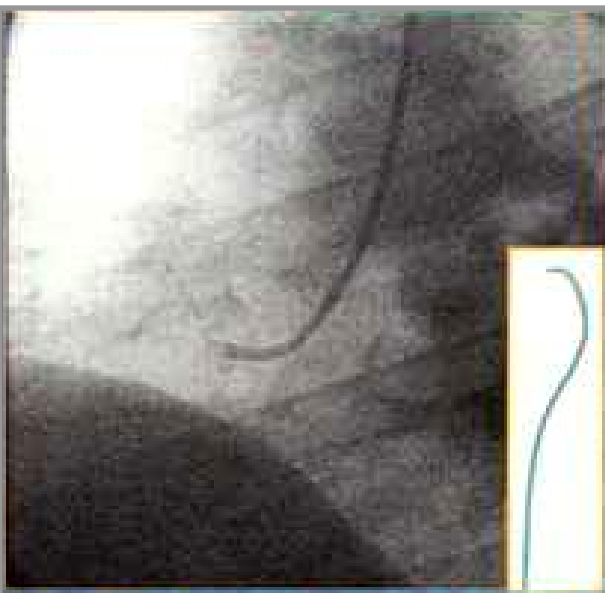


- ◆ 对侧壁提供后座力
- ◆ 支持力介于JR和Amplatz之间
- ◆ 与BSC的ART或MDT的MAC相似

MAC (Multi Aortic Curve)

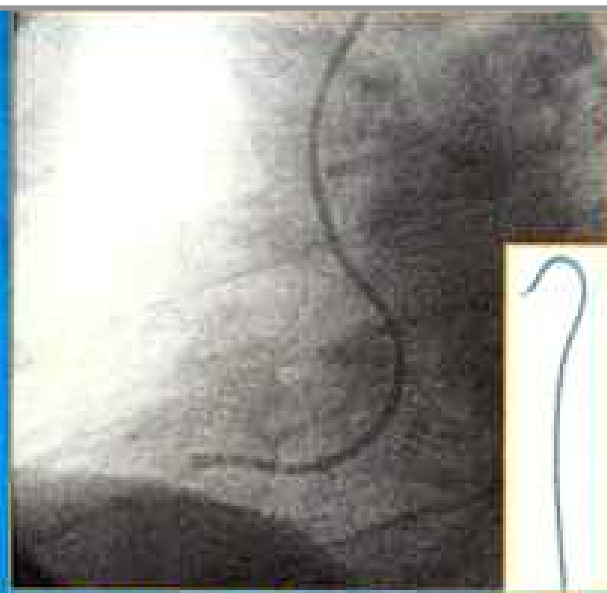


- ◆ 头端直线形，通过对侧壁提供额外后座力同时可深插
- ◆ 适合开口向下RCA
- ◆ 与BSC的Voda Right或MDT的ECR相似。



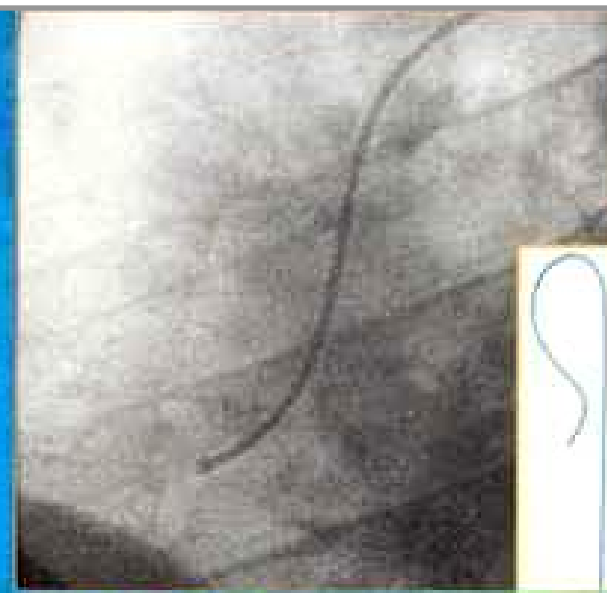
### 6F JR 4

- Deep Seat for Backup
- Simple to Complex IX
- RCA Normal Takeoff



### 6F XBRCA

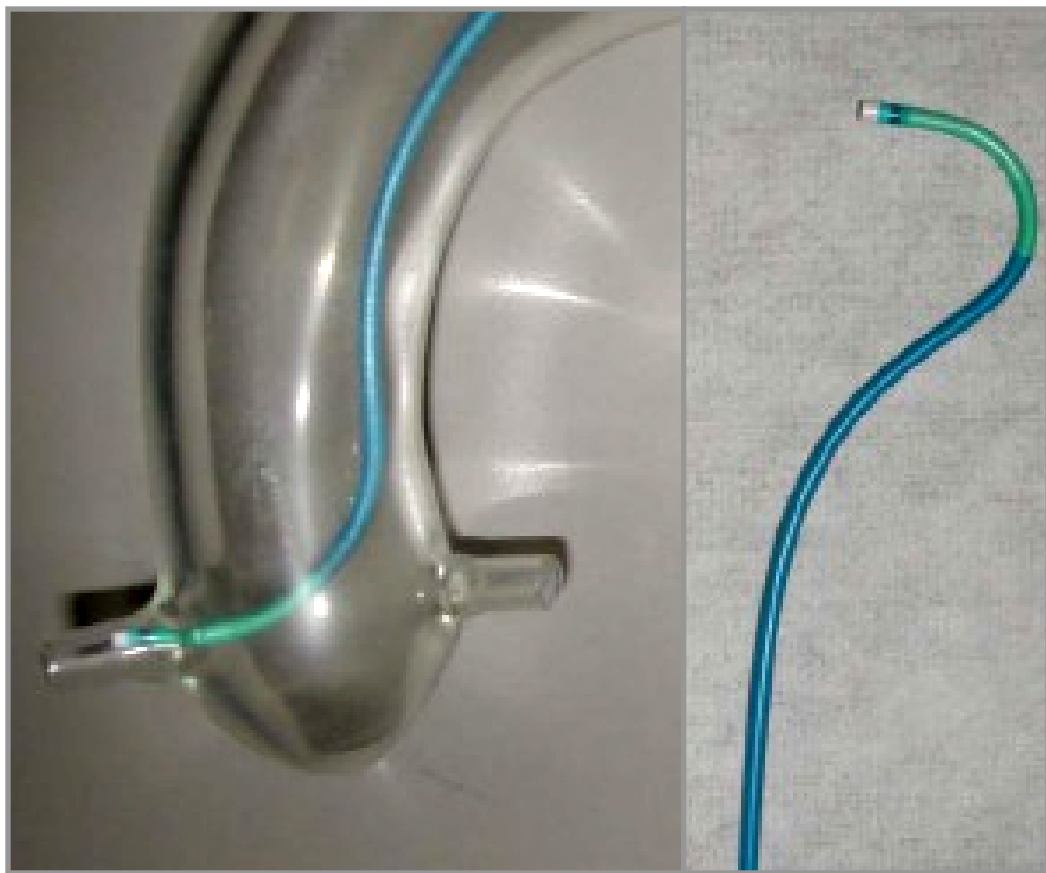
- Extra Backup
- Complex IX
- RCA Superior RCA



### 6F XBR 2

- Extra Backup
- Complex IX
- RCA Inferior Takeoff

## Medtronic RBU (Right back up)

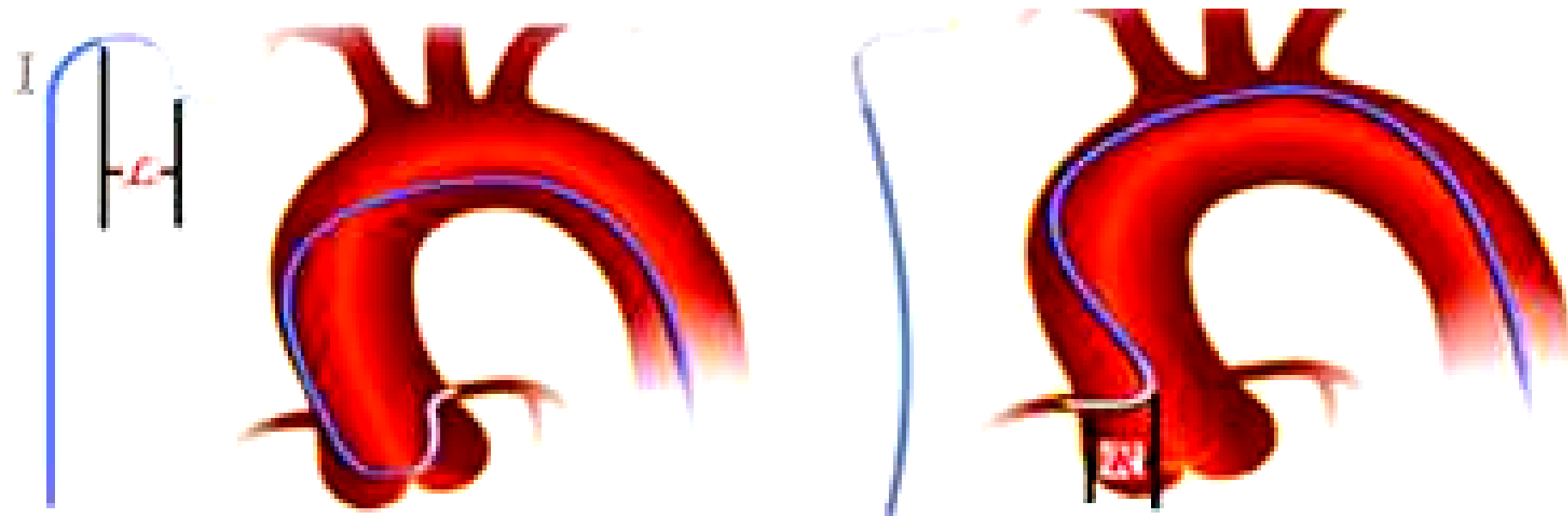


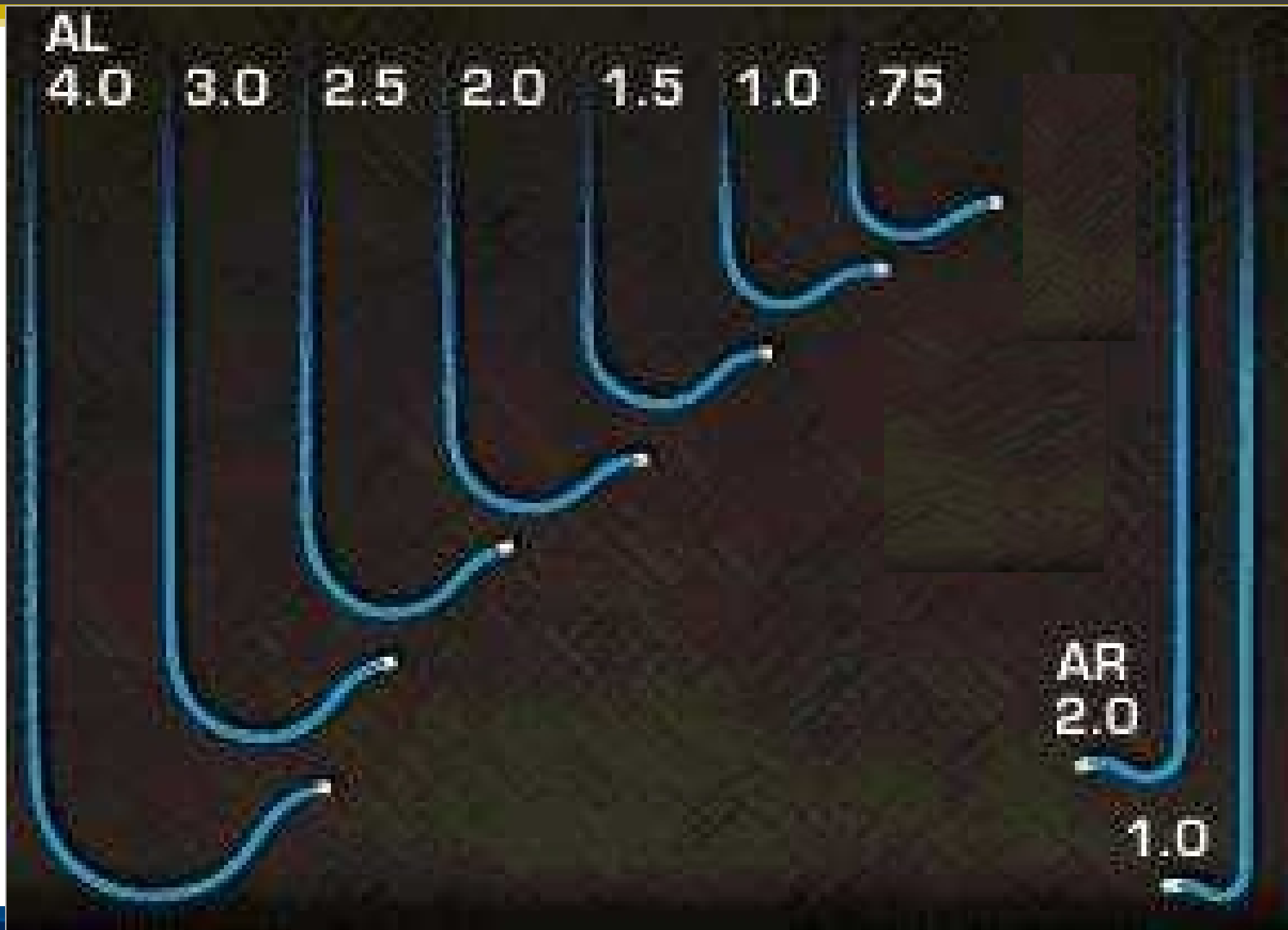
- ◆ 对侧壁支撑
- ◆ 适合开口平行或  
向下RCA
- ◆ 通常插入10-12mm
- ◆ 介于MAC和  
Amplatz之间
- ◆ 通常使用RBU3.5

# Amp latz导管

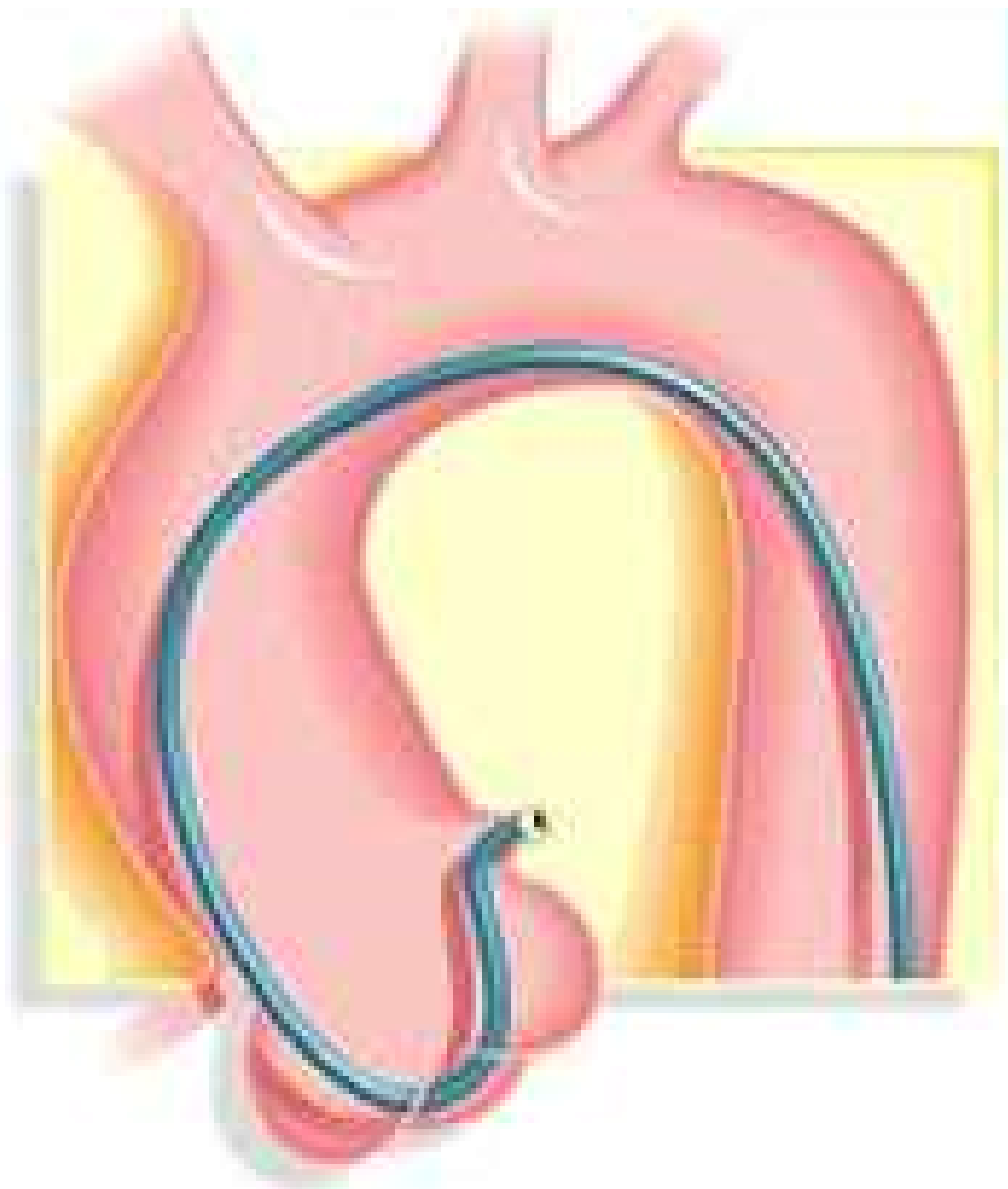
良好的同轴和被动支持力，可用于多数起源异常冠状动脉

根据L段长短分为AL0.75、AL1、AL1.5、AL2、AL3、AL4  
根据R段的长短分为AR1、AR2





AL



- ◆第二弯曲与冠状窦及对侧壁贴合，多点支撑
- ◆AL2用于LCA
- ◆AL1、0.75用于RCA

AR



- ◆第二弯曲小
- ◆限制器械通过
- ◆支撑力弱
- ◆仅用于“牧羊钩”样RCA



以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：<https://d.book118.com/80503022234011201>