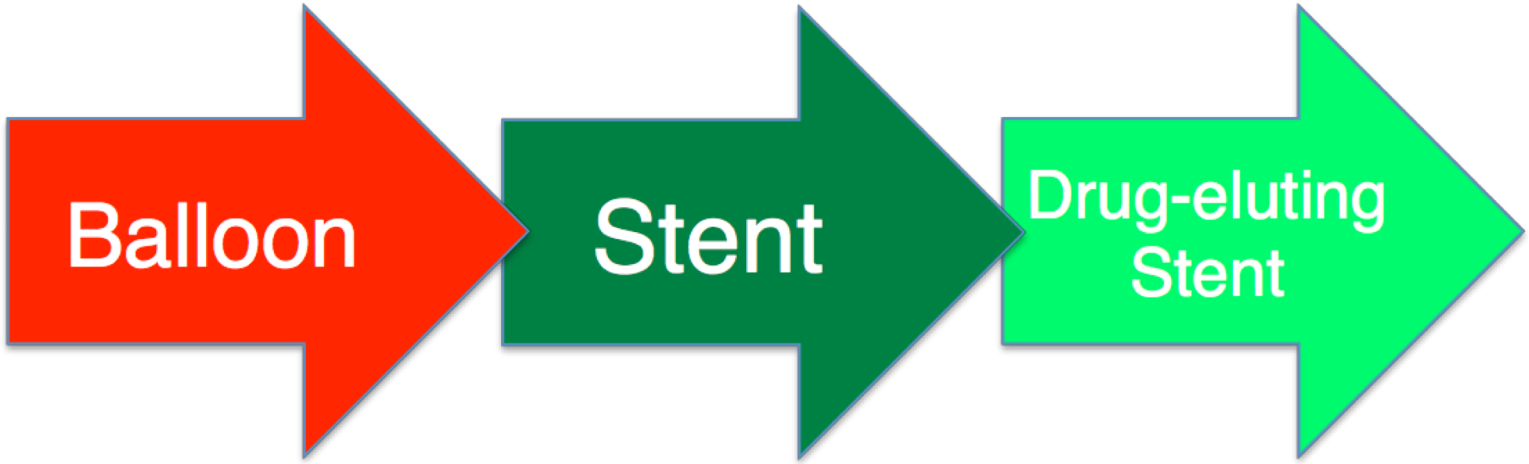
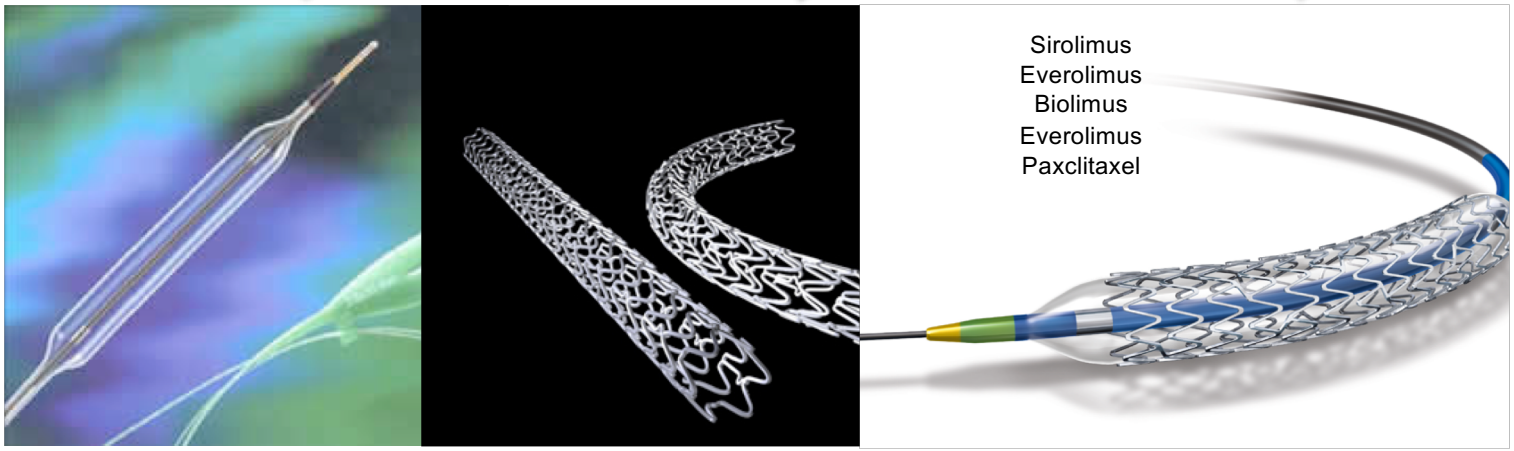
Entwicklungen in der interventionellen Kardiologie



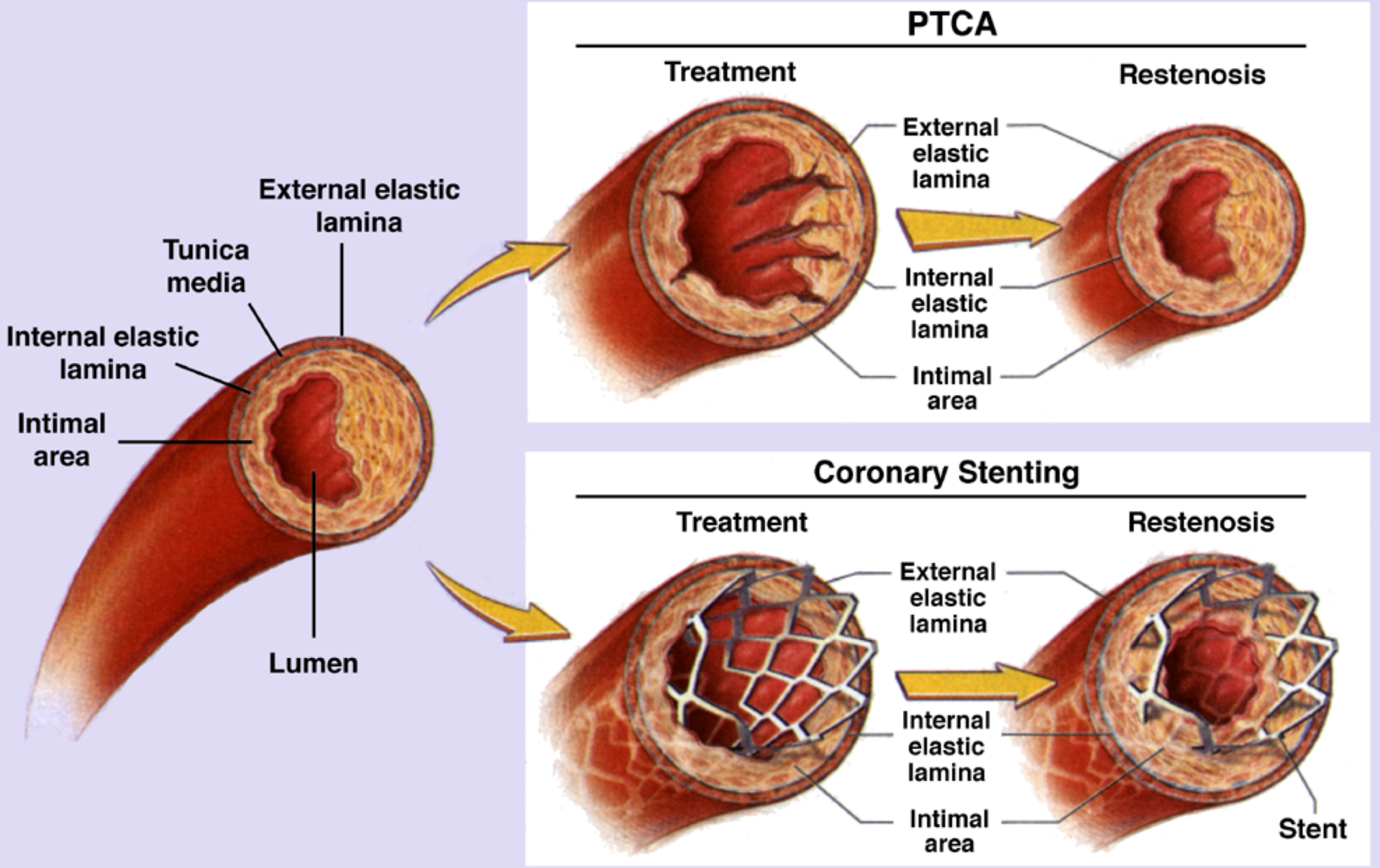


Disssections
Acute closure
Restenosis (30-40%)

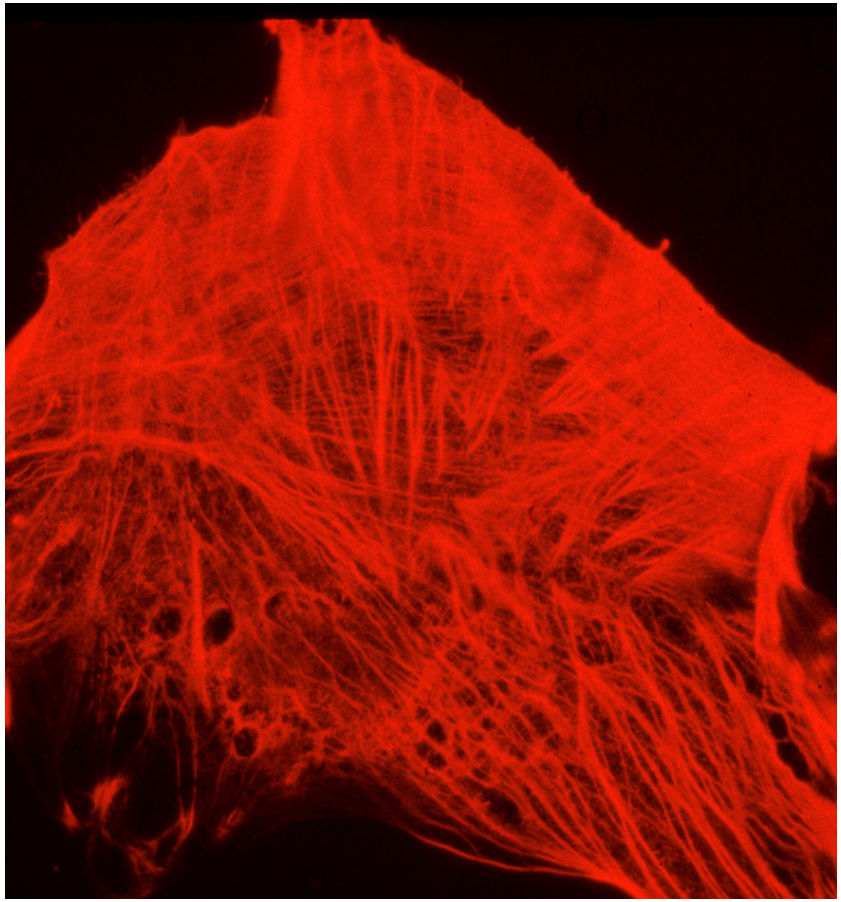
Better Results
Managing Dissections
Less Restenosis

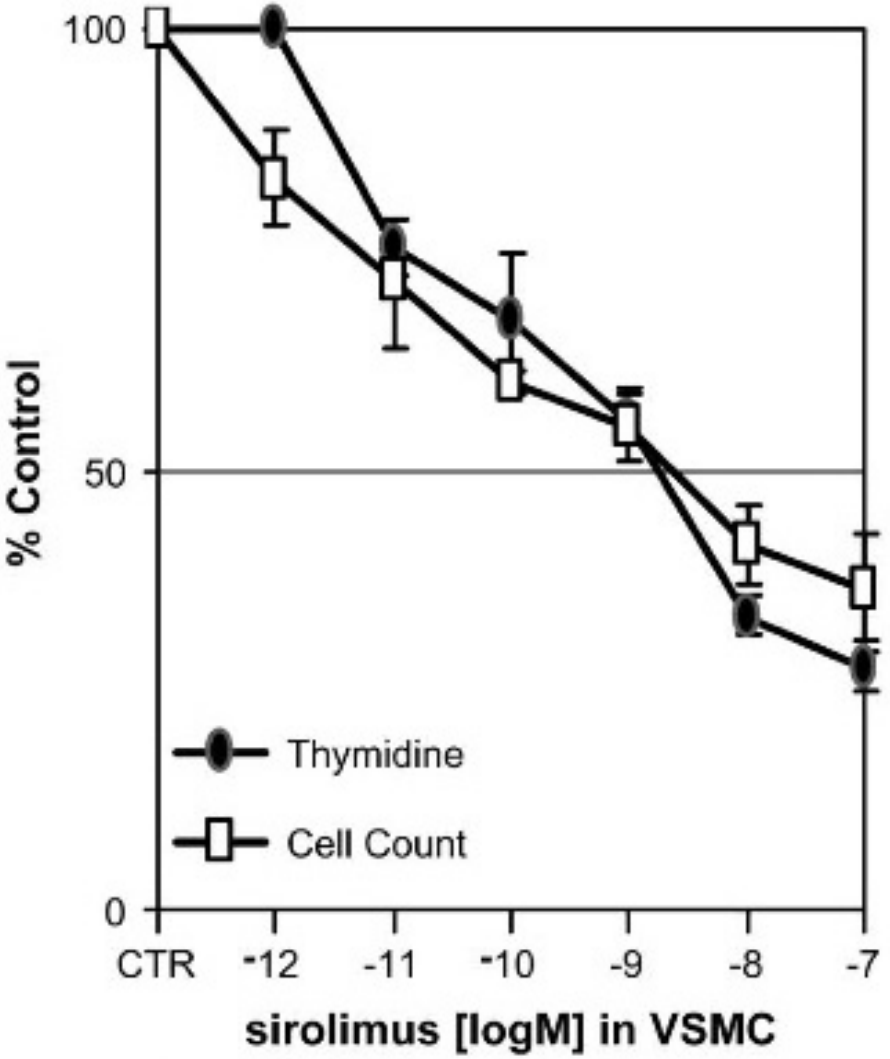
Biodegradable Polymer
Abluminal Drug Release
Less Stenthrombosis

Restenosen nach Ballon und Stent



Hemmung des *mammalian Target of Rapamycin* (mTor): Sirolimus hemmt die Proliferation von Gefässmuskelzellen



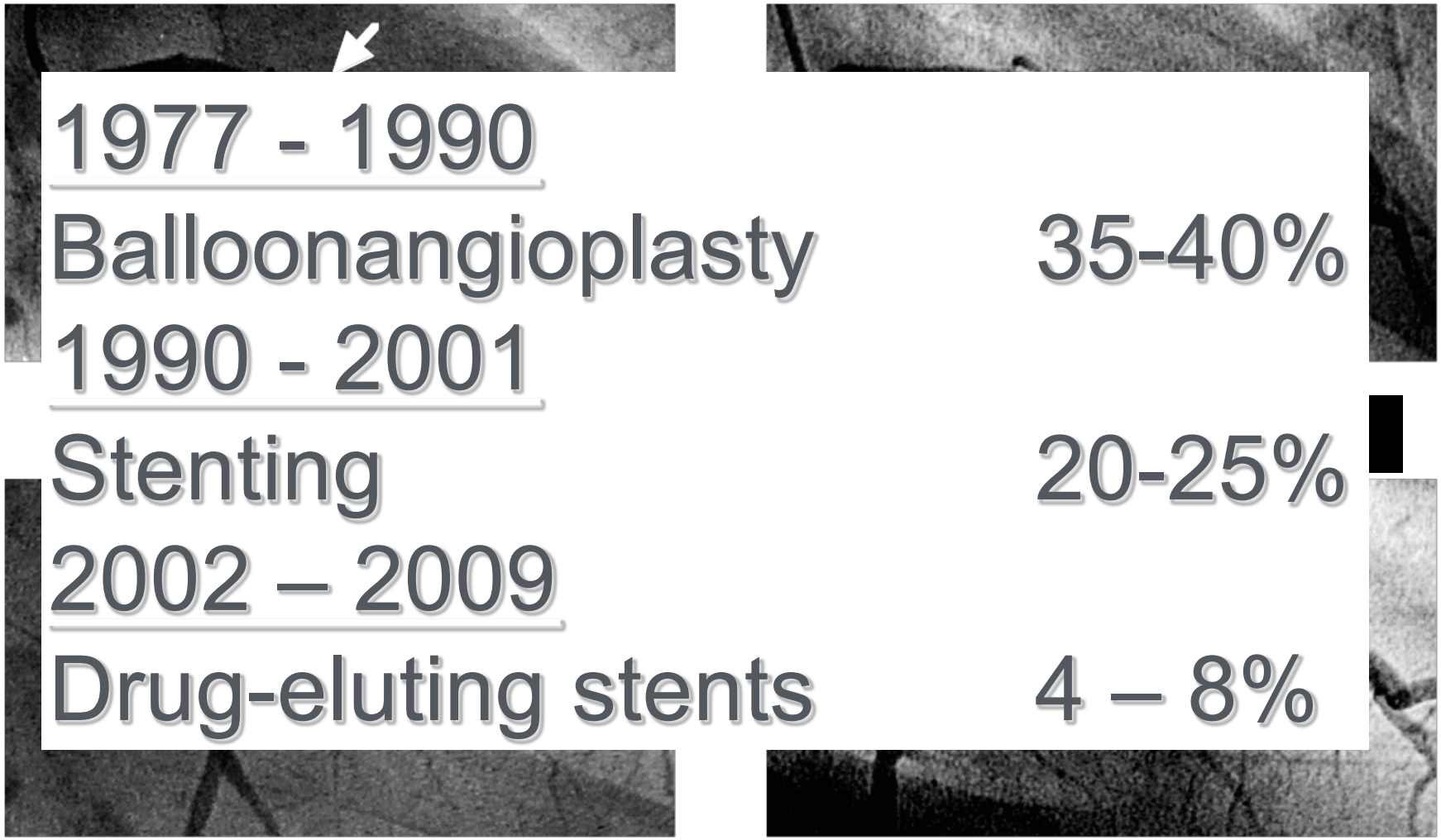


Matter et al., J. Cardiovasc. Pharmacol 2007

PTCA und Restenose

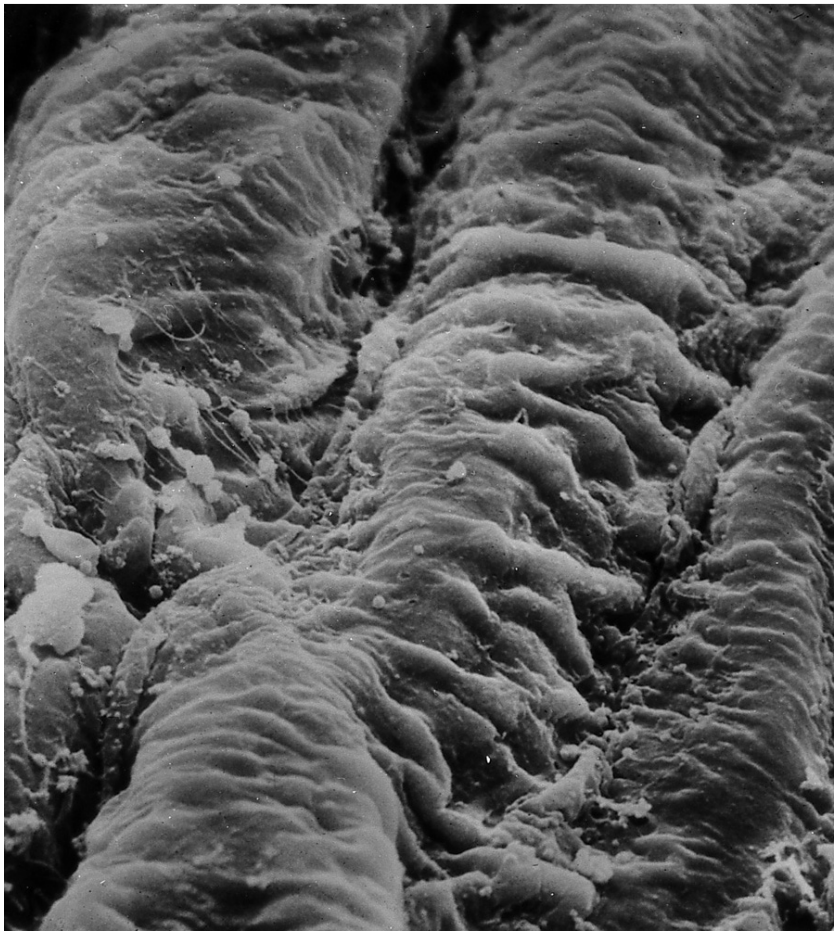
Befund vor PCI

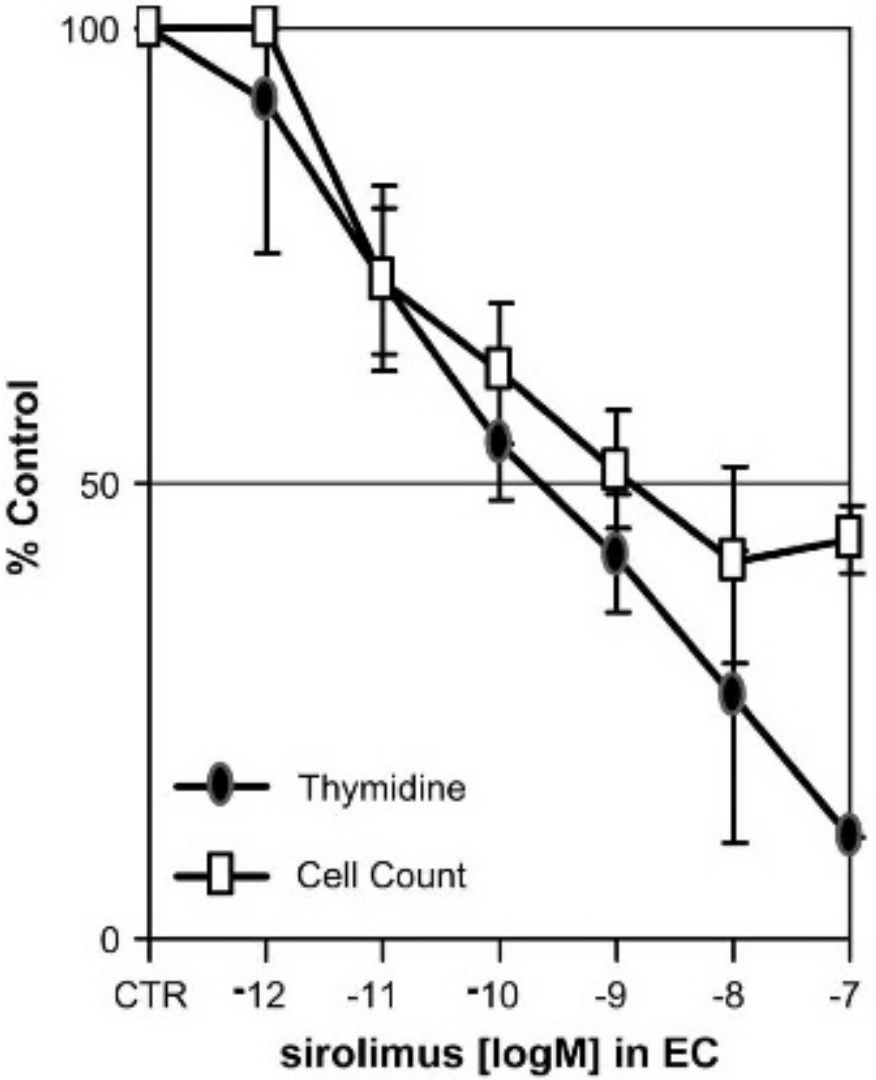
Befund 6 Monate nach PCI



1977 - 1990	
Balloonangioplasty	35-40%
1990 - 2001	
Stenting	20-25%
2002 – 2009	
Drug-eluting stents	4 – 8%

Hemmung des *mammalian Target of Rapamycin* (mTor): Sirolimus hemmt auch die Proliferation von Endothelzellen

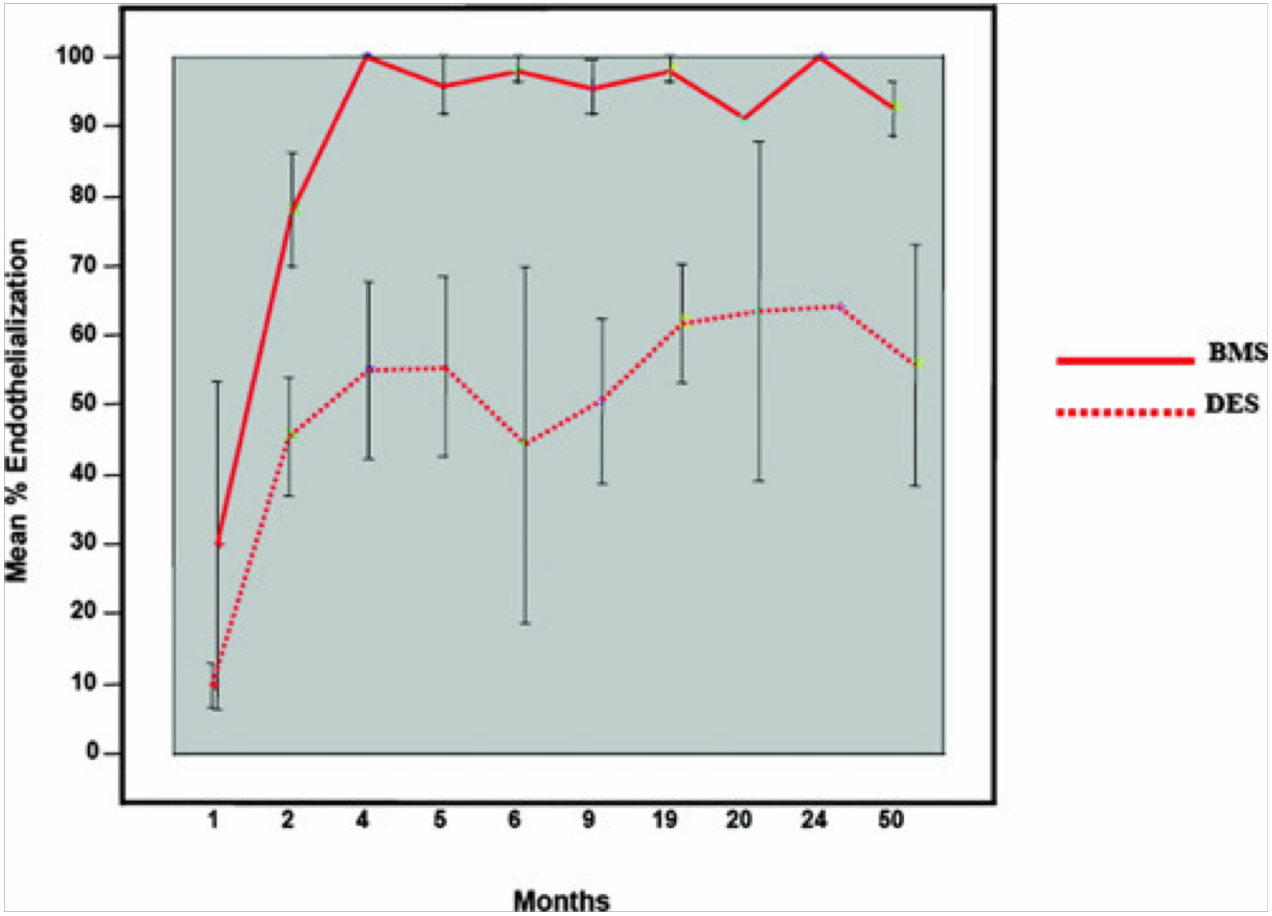




Matter et al., J. Cardiovasc. Pharmacol 2007

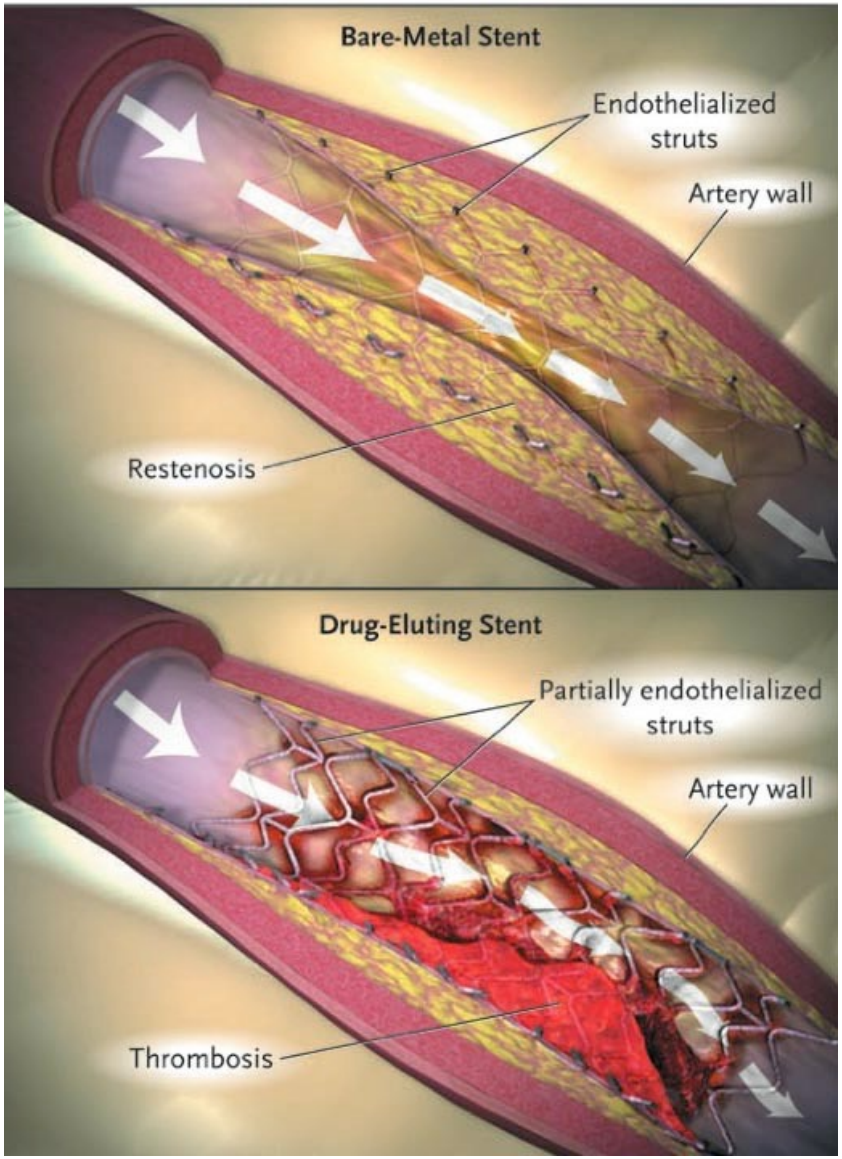
Stents und Re-Endothelialization:

Erst-Generation Drug-eluting Stents vs. Bare metal Stents

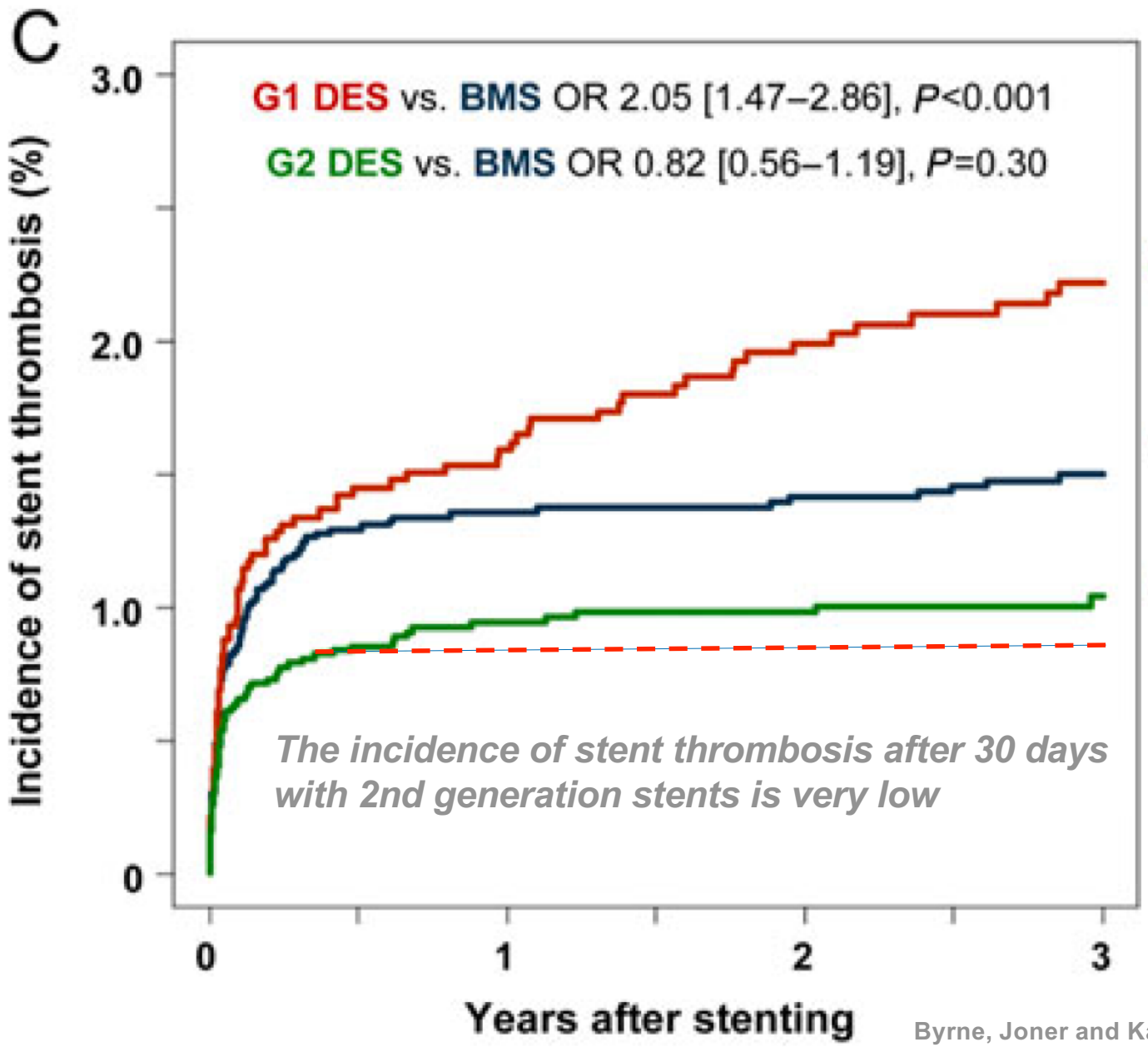


Lüscher, Virmani et al. Circulation 2007

Restenose versus Stentthrombose



Häufigkeit von Stentthrombosen



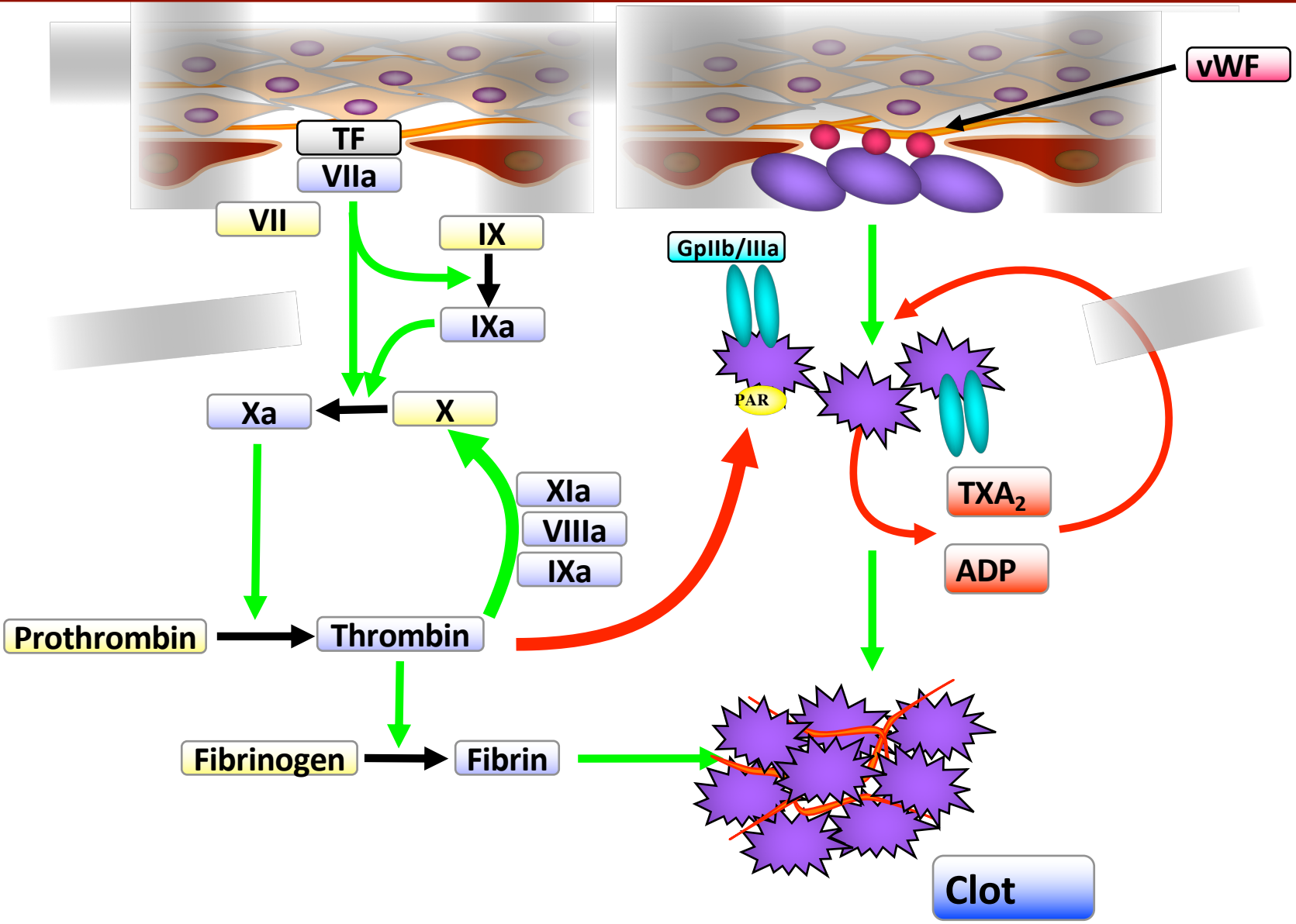
1st Generation Drug-eluting Stents
2.2% G1 DES

Bare-metal Stents
1.5% in BMS

1.0% G2 DES
2nd Generation Drug-eluting Stents

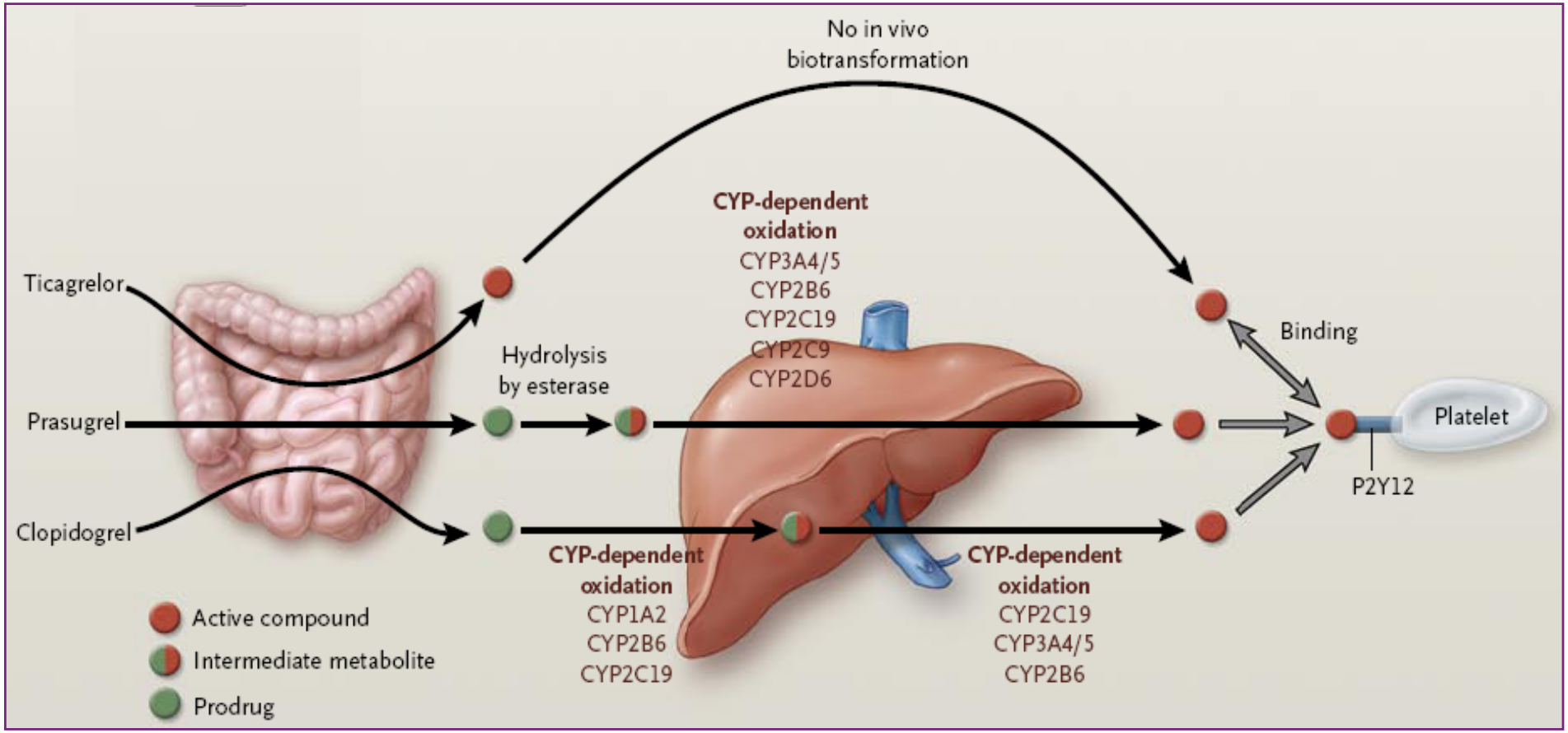
Byrne, Joner and Kastrati. Eur. Heart J. 2015

Thrombusbildung – Thrombozyten und Fibrin



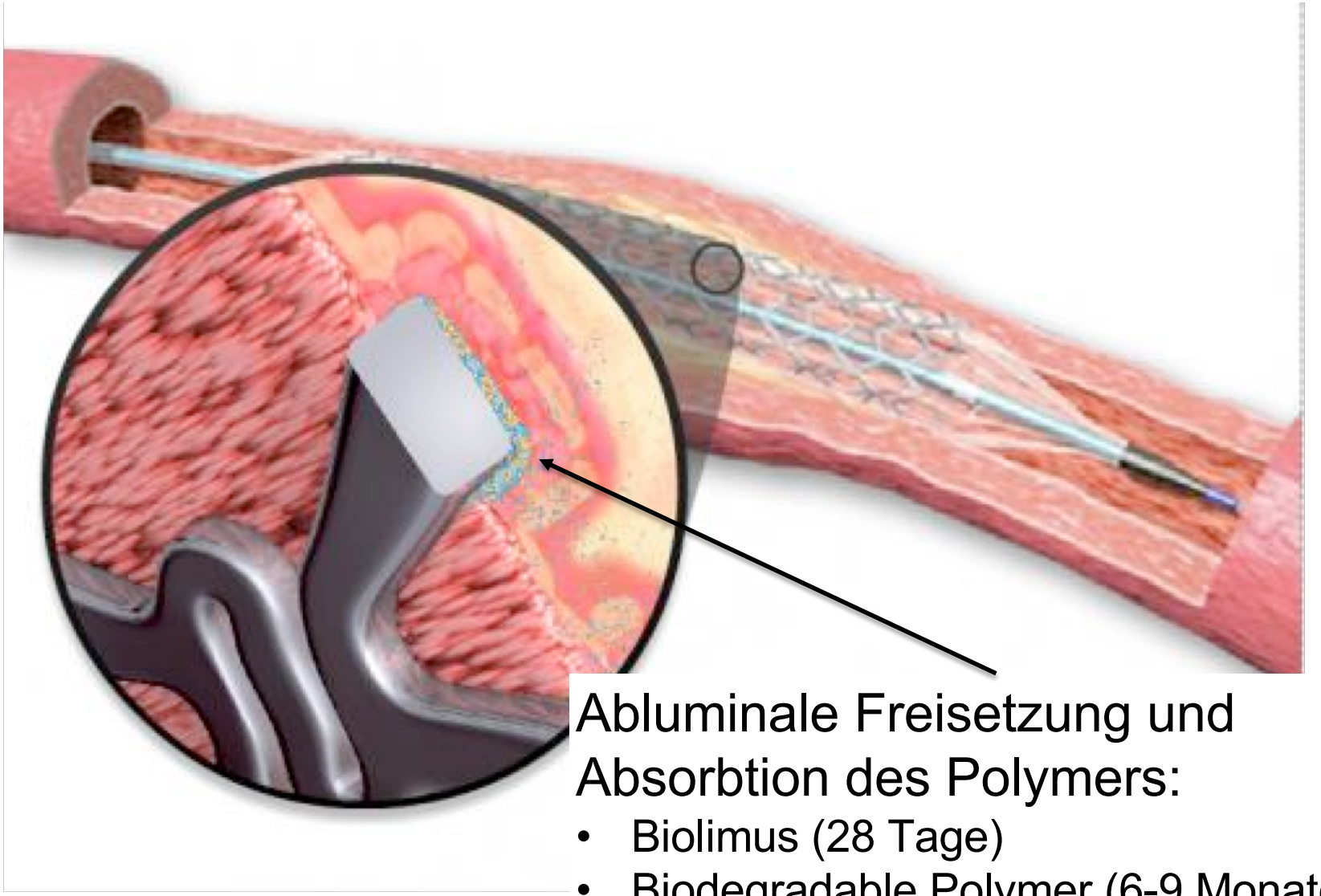
Steffel 2009

Metabolismus und Wirkungsmechanismus von Thrombozytenhemmern



Schomig A. Ticagrelor — Is There Need for a New Player in the Antiplatelet-Therapy Field? *NEJM* 2009

Neues Design der Zweit-Generation Drug-eluting Stents: Abluminal Freisetzung und Biodegradables Polymer



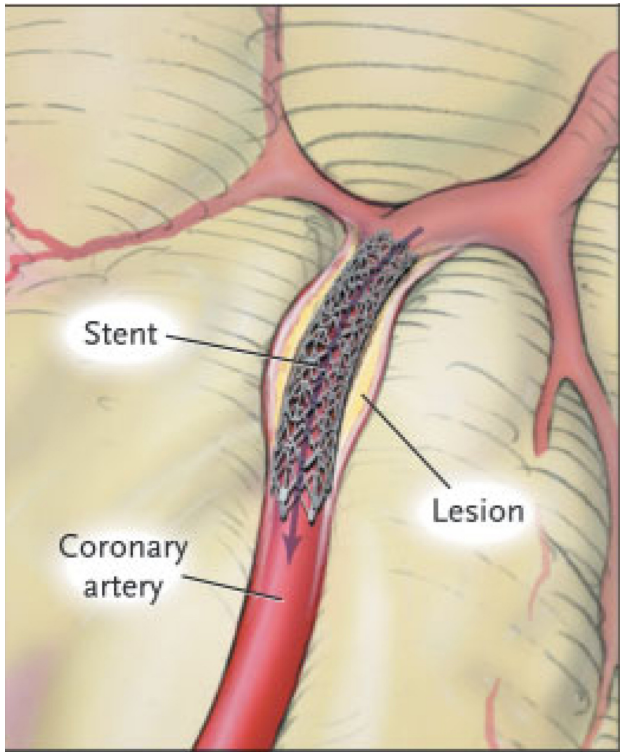
Abluminale Freisetzung und Absorbtion des Polymers:

- Biolimus (28 Tage)
- Biodegradable Polymer (6-9 Monate)

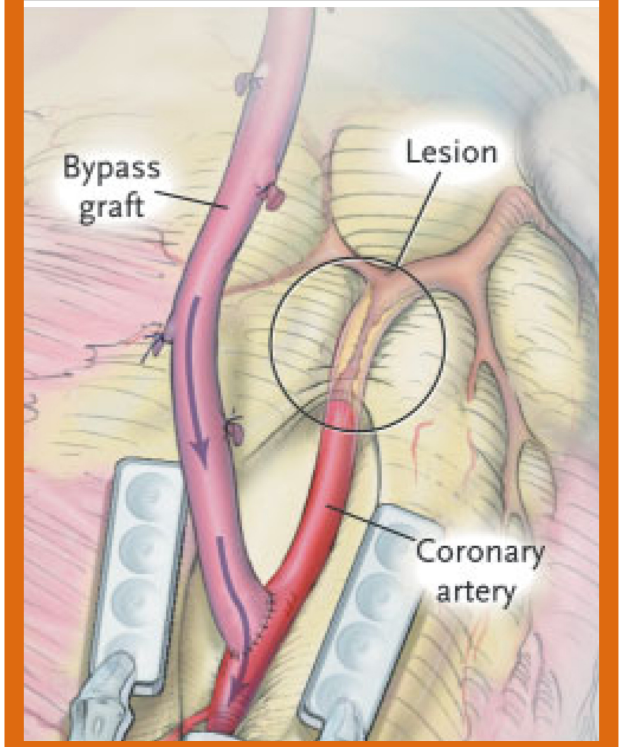
Behandlung der Koronaren Herzkrankheit

Medikamentöse Therapie

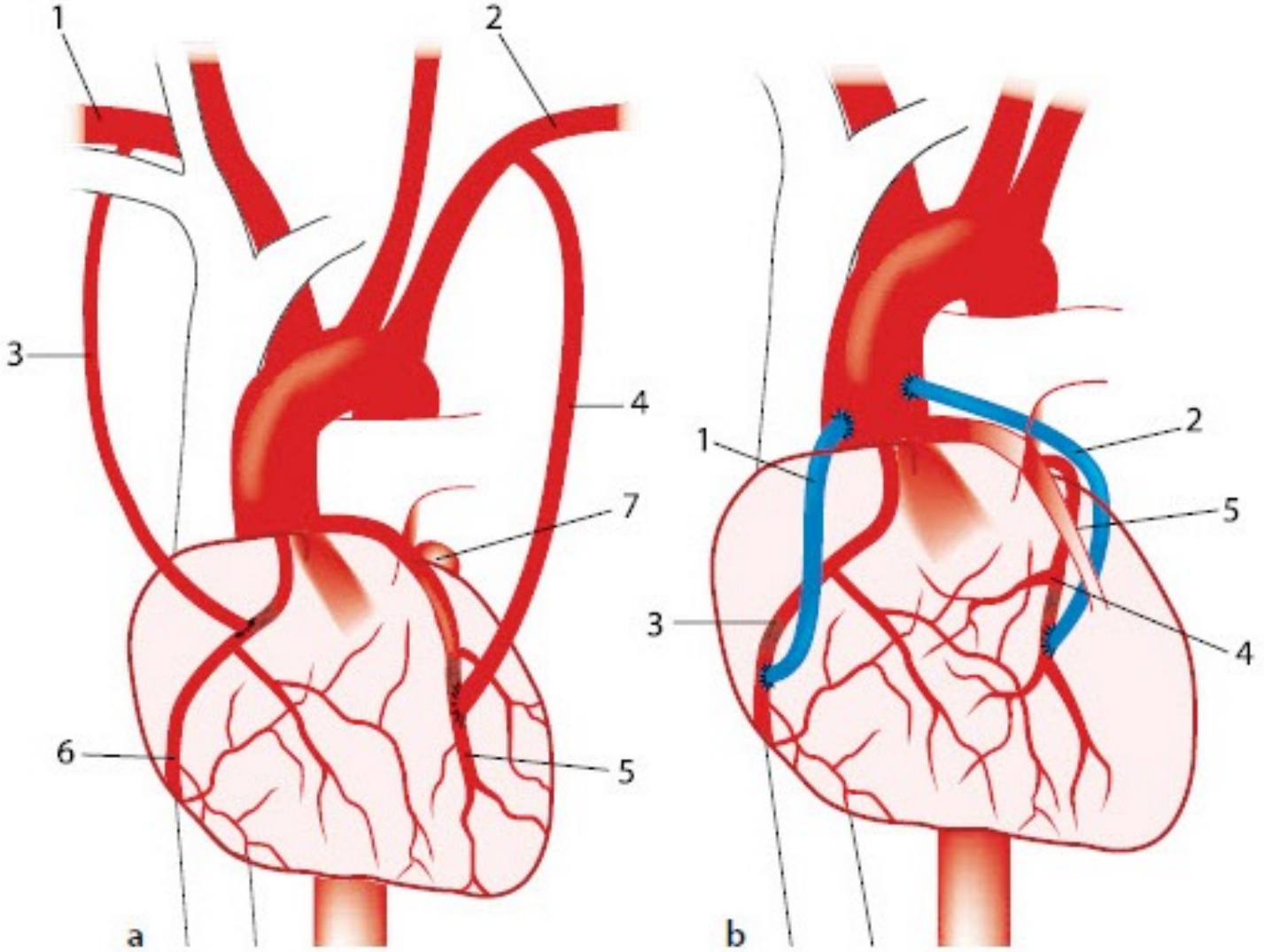
Perkutane Coronare Intervention (PCI)



Aorto-Coronare By-passoperation (ACBP)

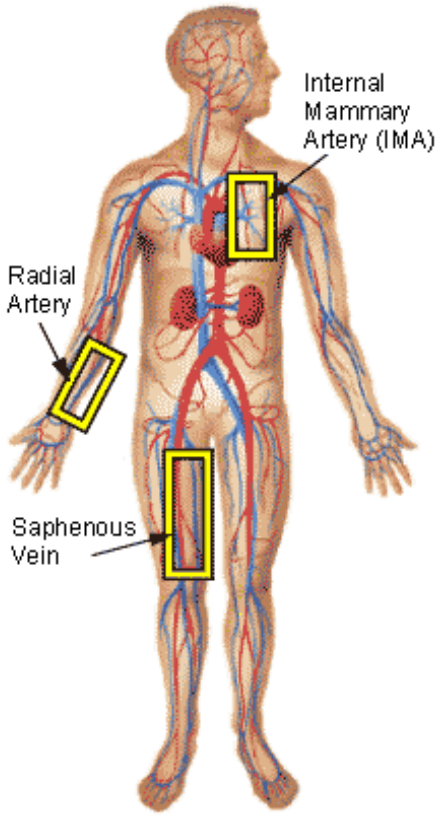


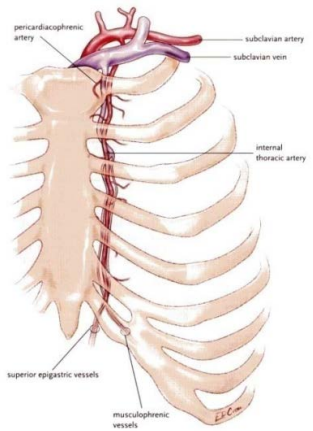
Die koronare Bypassoperation bei koronarer Herzkrankheit

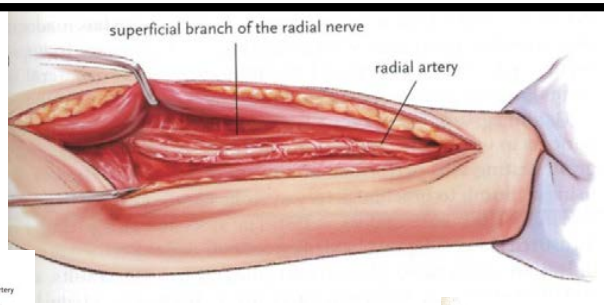


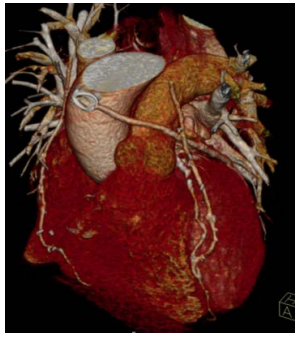
Bypass Grafts

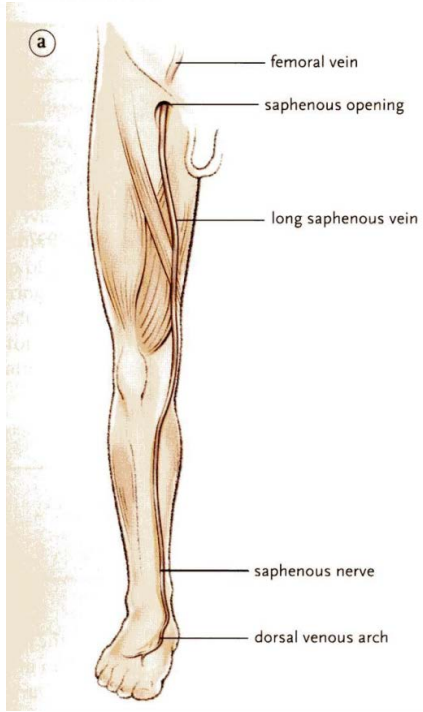
1, **2**: arterielle Grafts
3: venöse Grafts





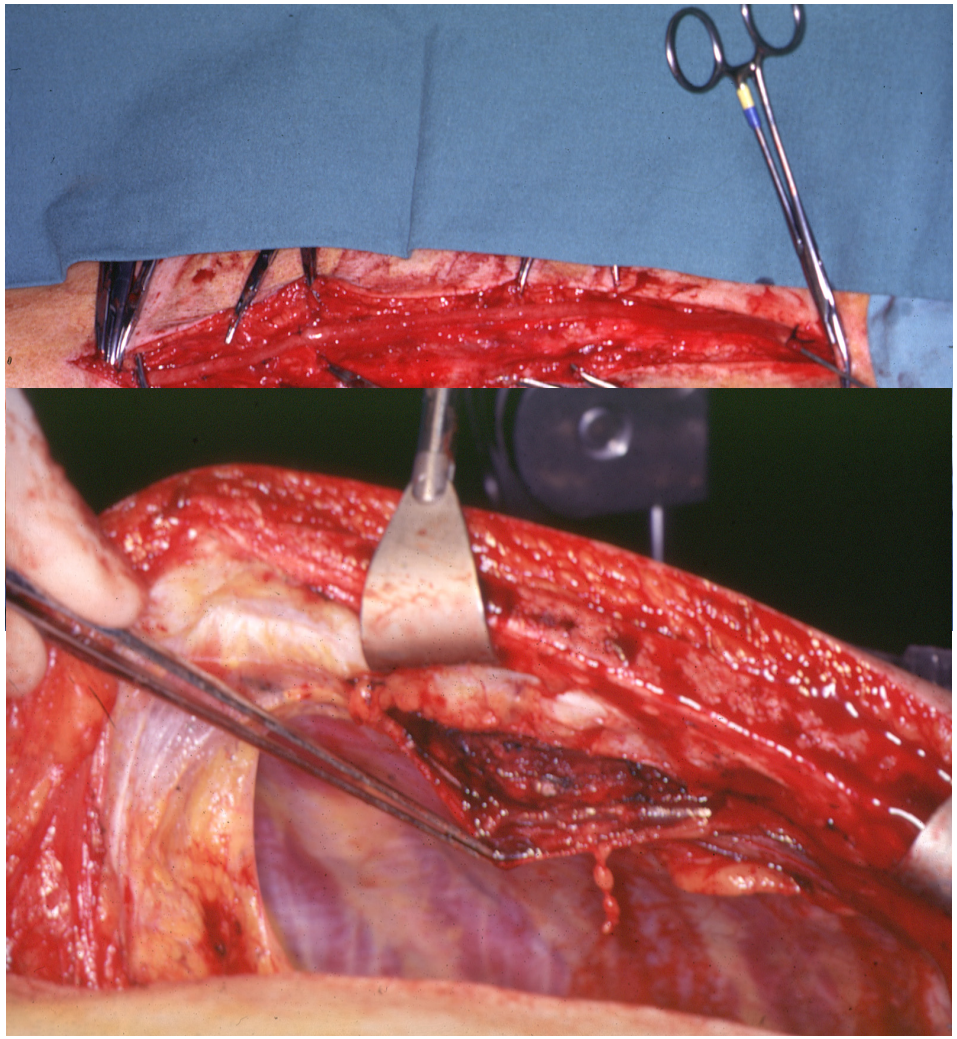




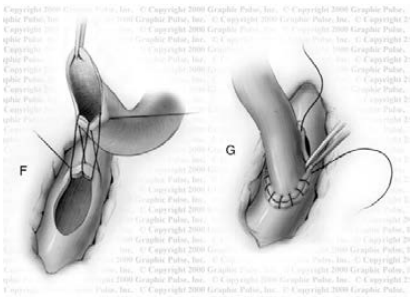


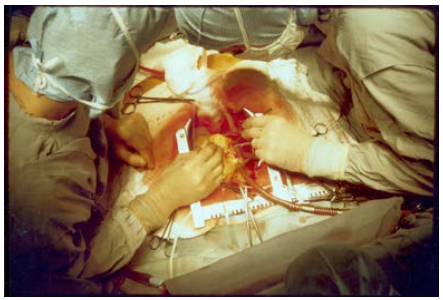
Aortokoronare Bypass OP bei KHK

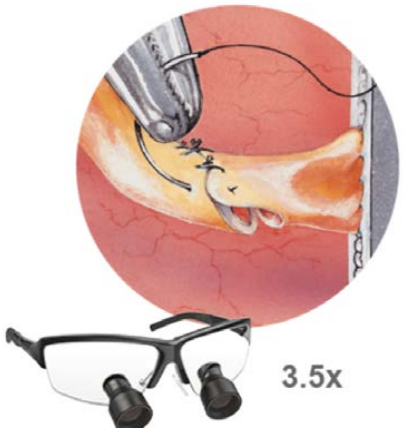
Präparation Vena Saphena



Bypass Anastomose: die Herausforderung

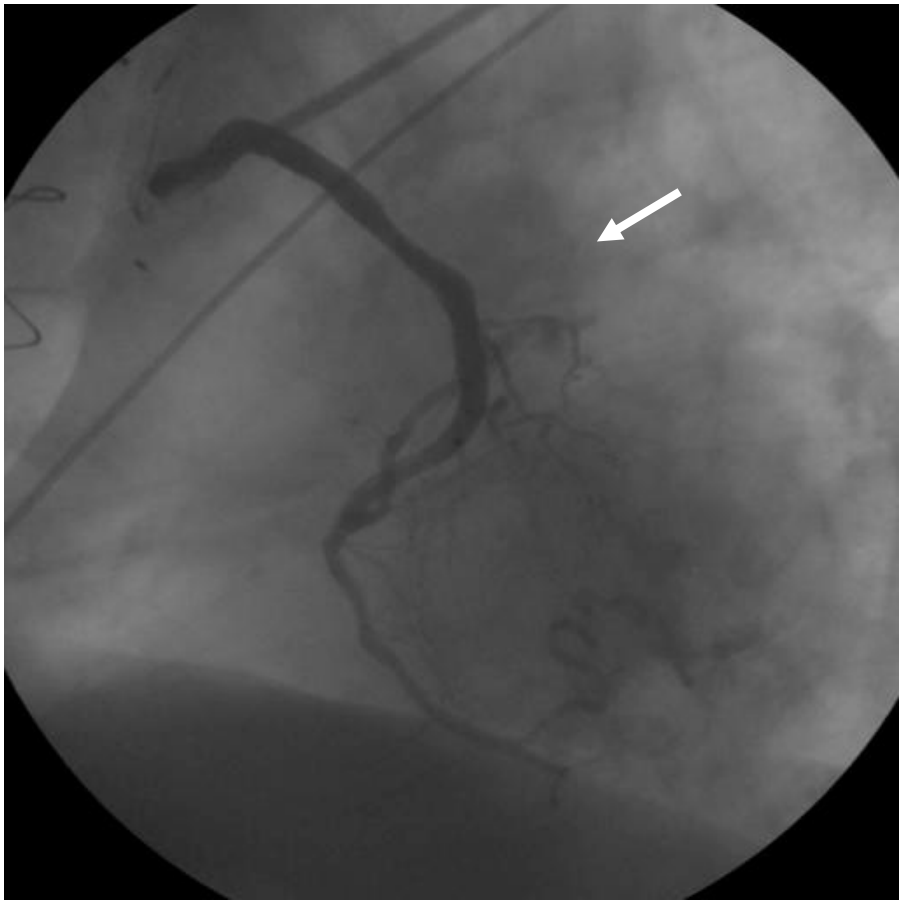




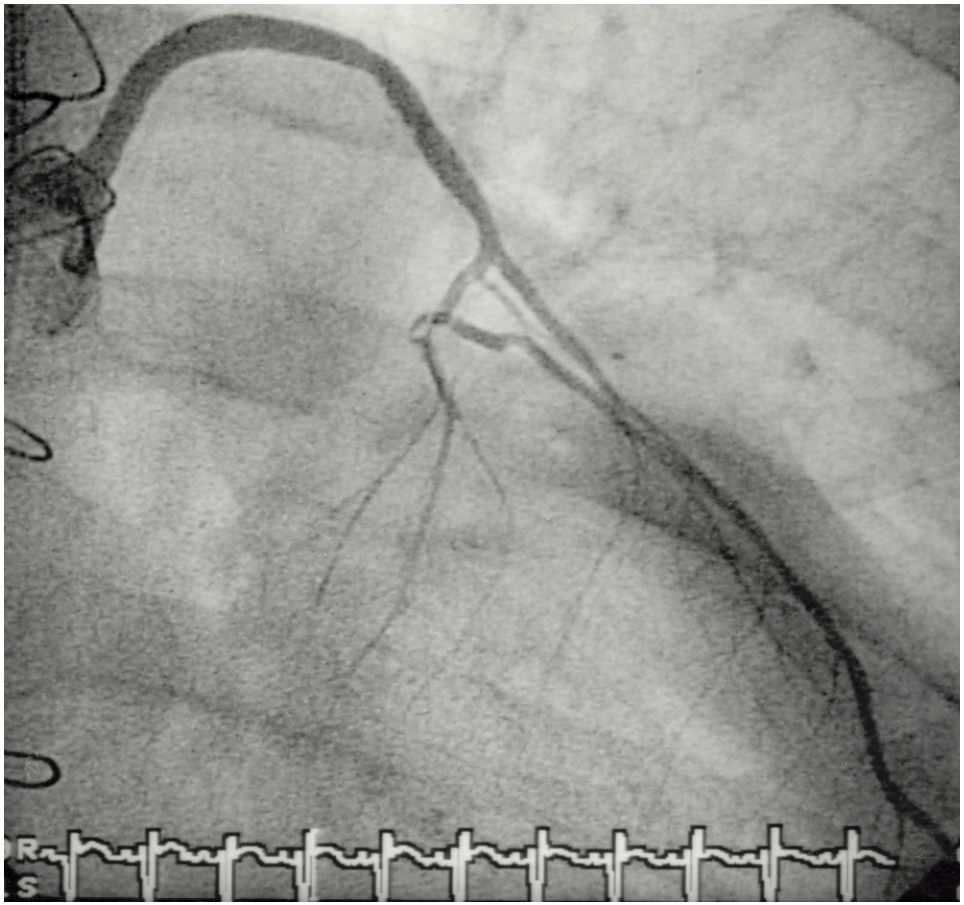


Venöse Koronare Bypassgrafts

Graft to the RCX



Graft to the LAD



Haltbarkeit von Bypass Grafts

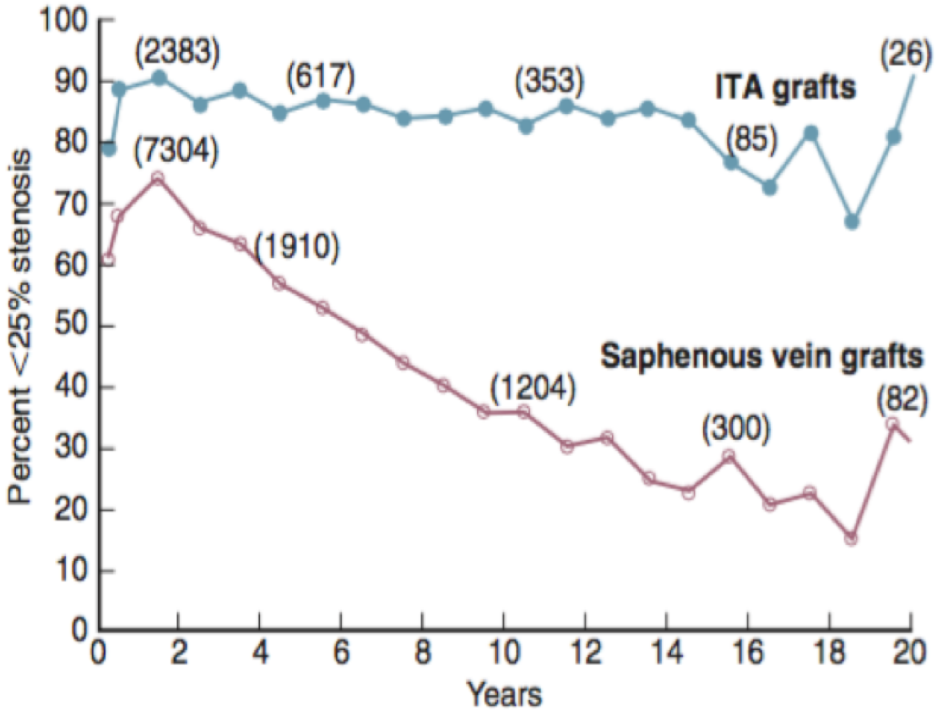
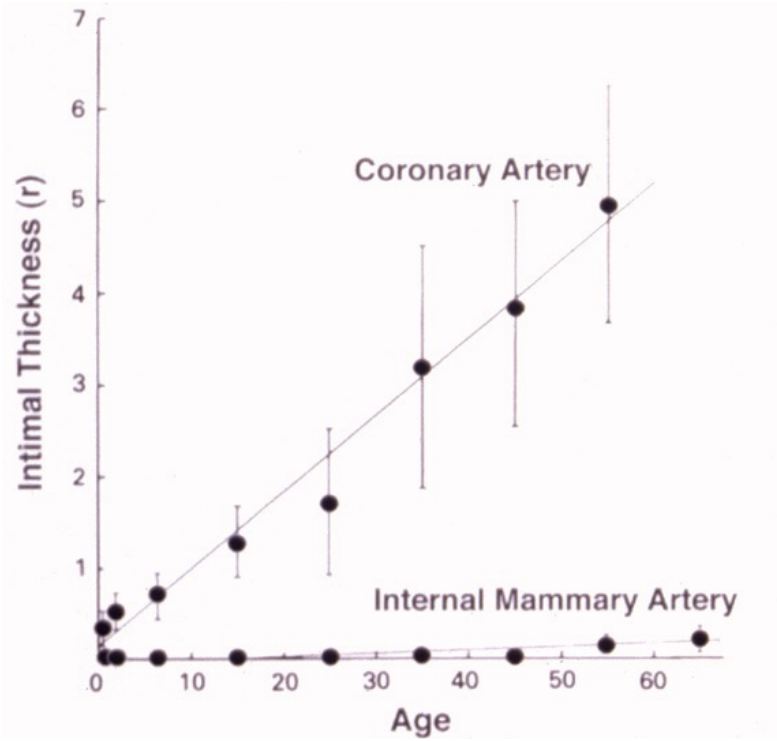


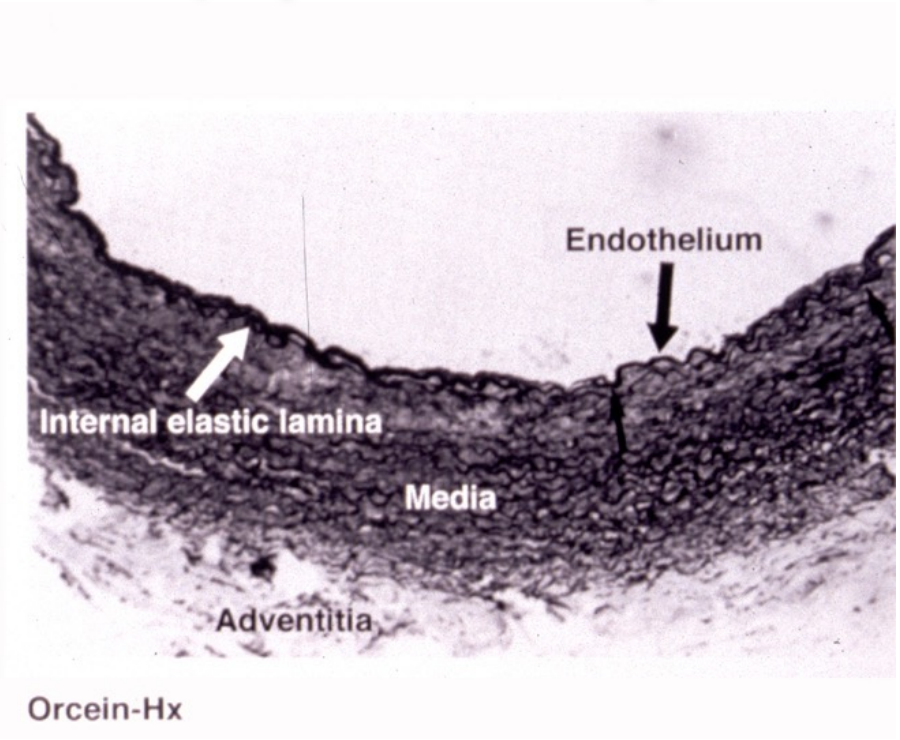
Figure 7-42 Patency of internal thoracic artery *(ITA)* and saphenous vein grafts at 1-year intervals after coronary artery bypass grafting. Numbers in parentheses are the number of observations. (From Cleveland Clinic data, 1972 to 1999).

Heterogenität der Gefässe

Age-dependent
Intimal Thickenig

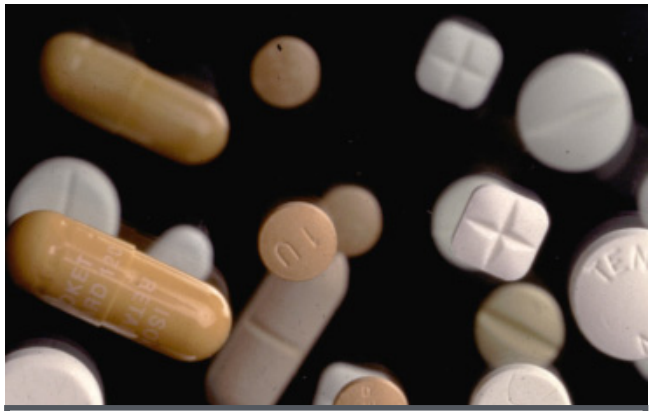


Internal Mammary Artery
(96 year old female)



Behandlung der Koronaren Herzkrankheit

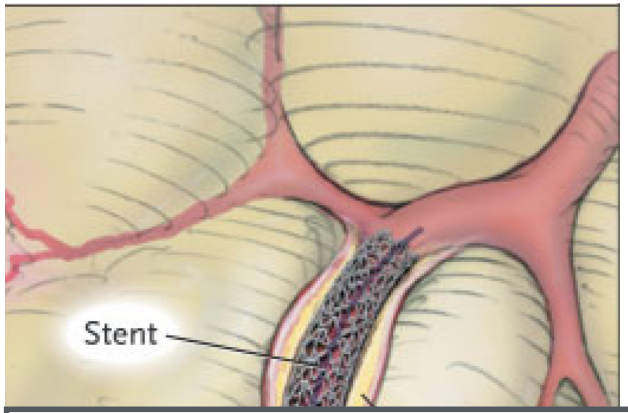
Medikamentöse Therapie



Alle Patienten mit KHK erhalten:

- Aspirin
- Statine
- Ggf. Antihypertensiva
- Ggf. Antidiabetika

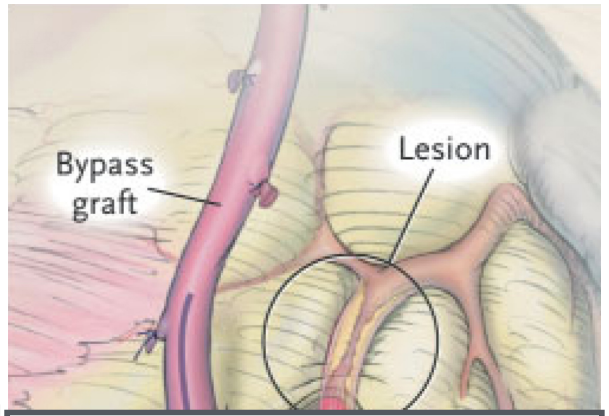
Perkutane Coronare Intervention (PCI)



Patienten mit 1- 2 Ge-fäss KHK erhalten zusätzlich:

- PCI mit Stent
- duale Thrombozytenhemmung

Aorto-Coronare By-passoperation (ACBP)



Patienten mit 3 Ge-fäss KHK erhalten:

- Bypass
- Verwendung von Arterien ggüber Venen
- Aspirin

Besten Dank für Ihre Aufmerksamkeit!

Dr. med. Dr. sc. nat. Erik W. Holy
Oberarzt
Andreas Grüntzig-Herzkatheterlabor
Universitäres Herzzentrum Zürich
erik.holy@usz.ch