Bypass-Operation nach dem Herzinfarkt

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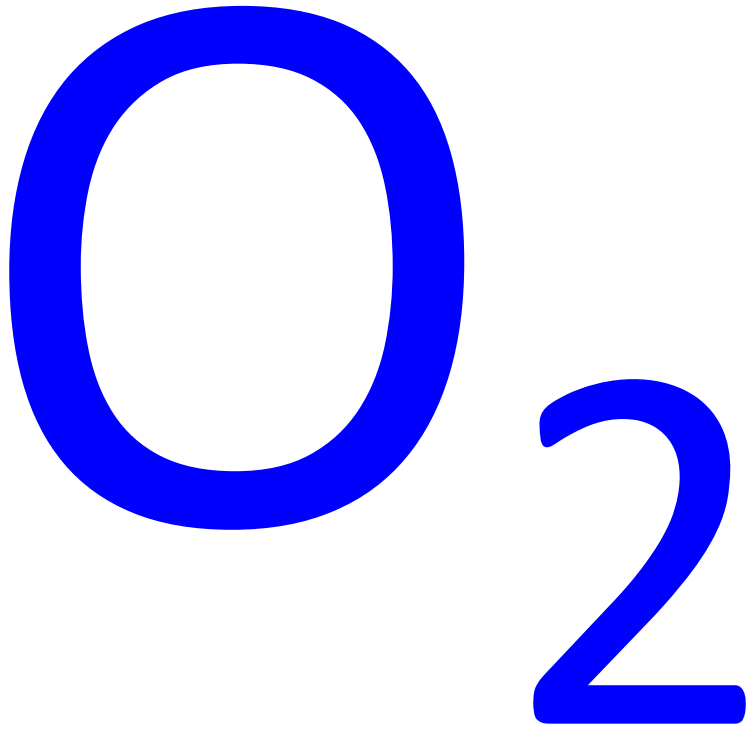

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You can live

without food	5 weeks
without water	5 days
without O_2	5 minutes

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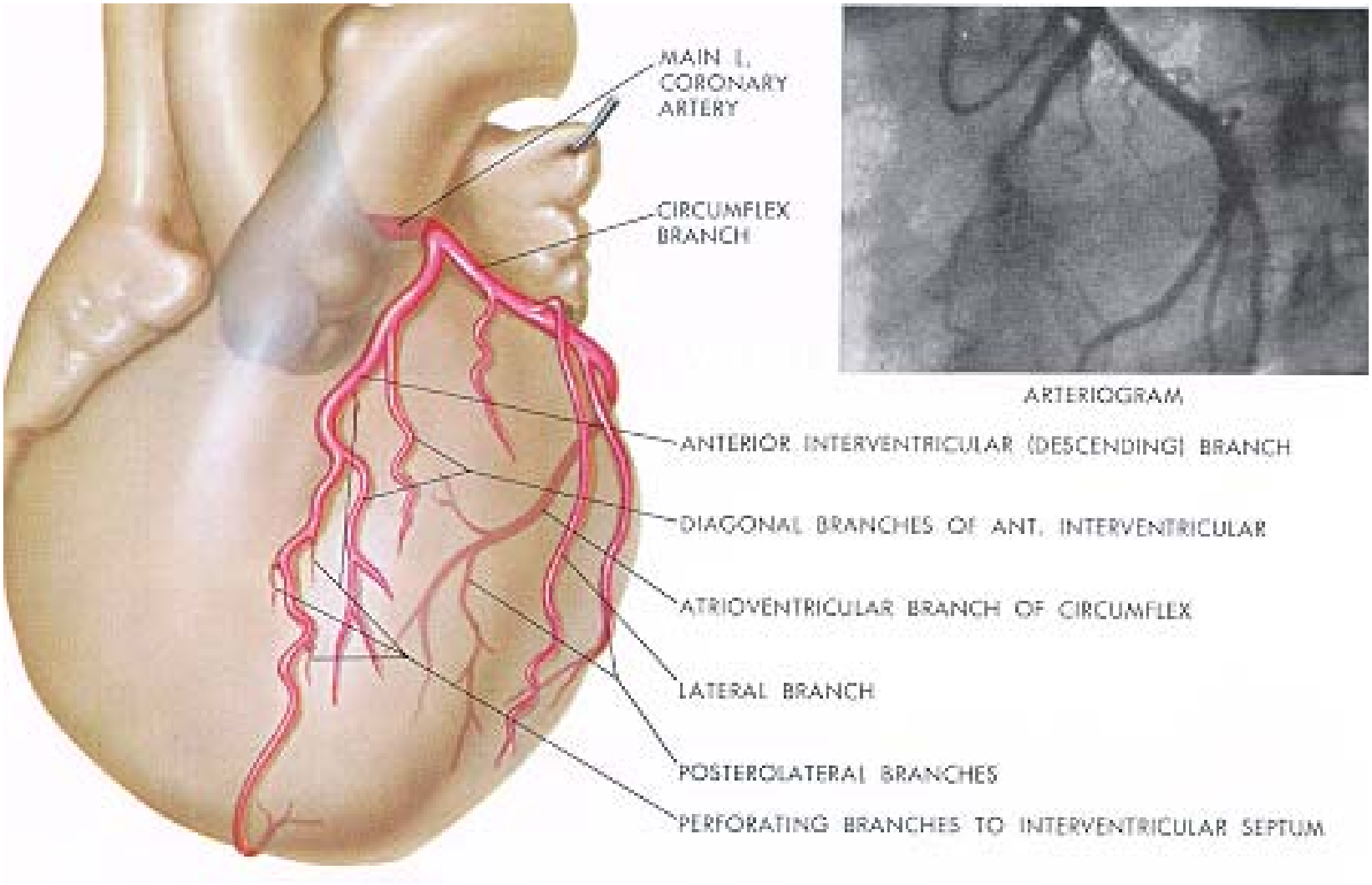
Warum brauchen wir ein Herz ?

Um das Gewebe mit Sauerstoff zu versorgen, der für die ATP-Gewinnung benötigt wird.



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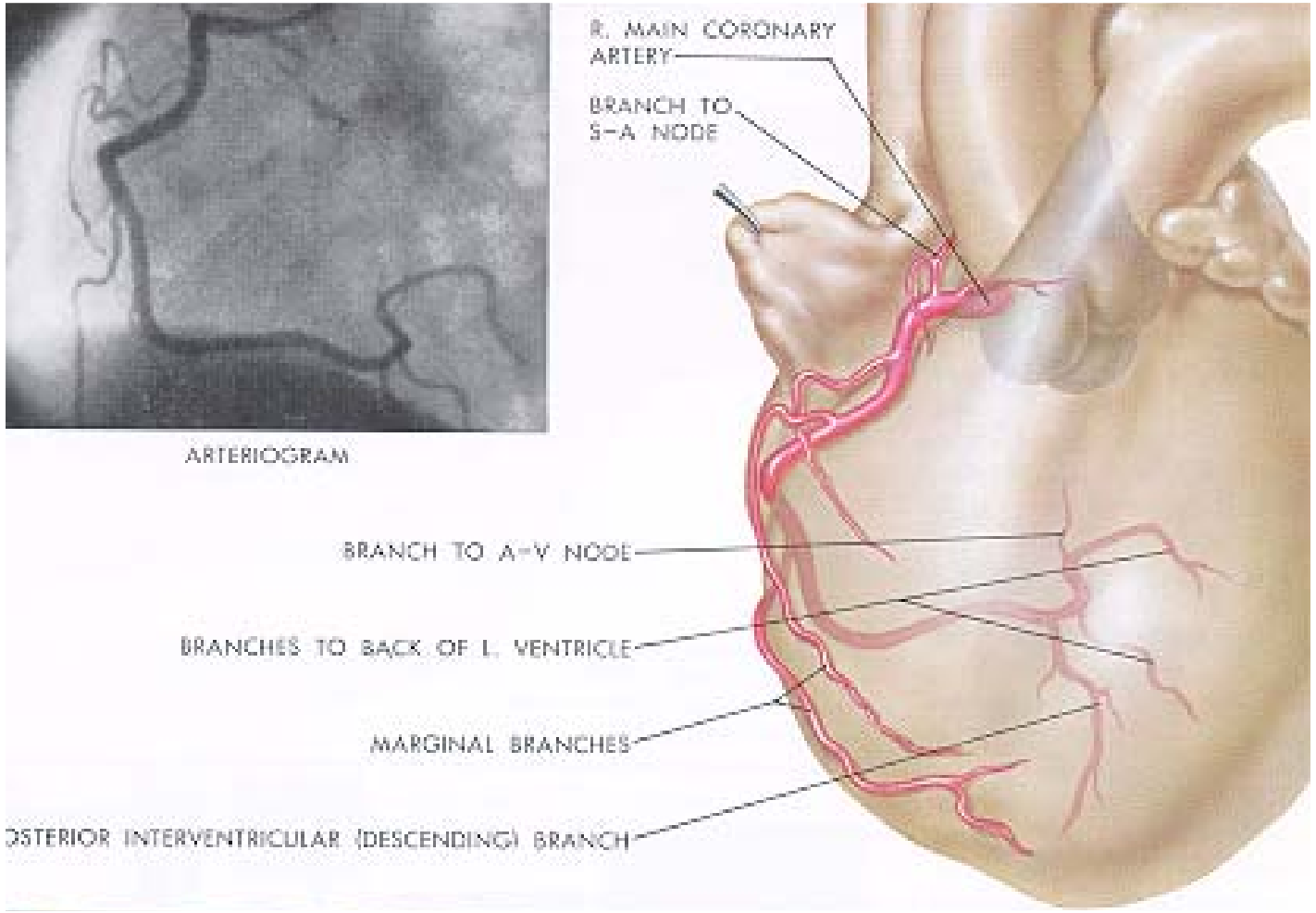

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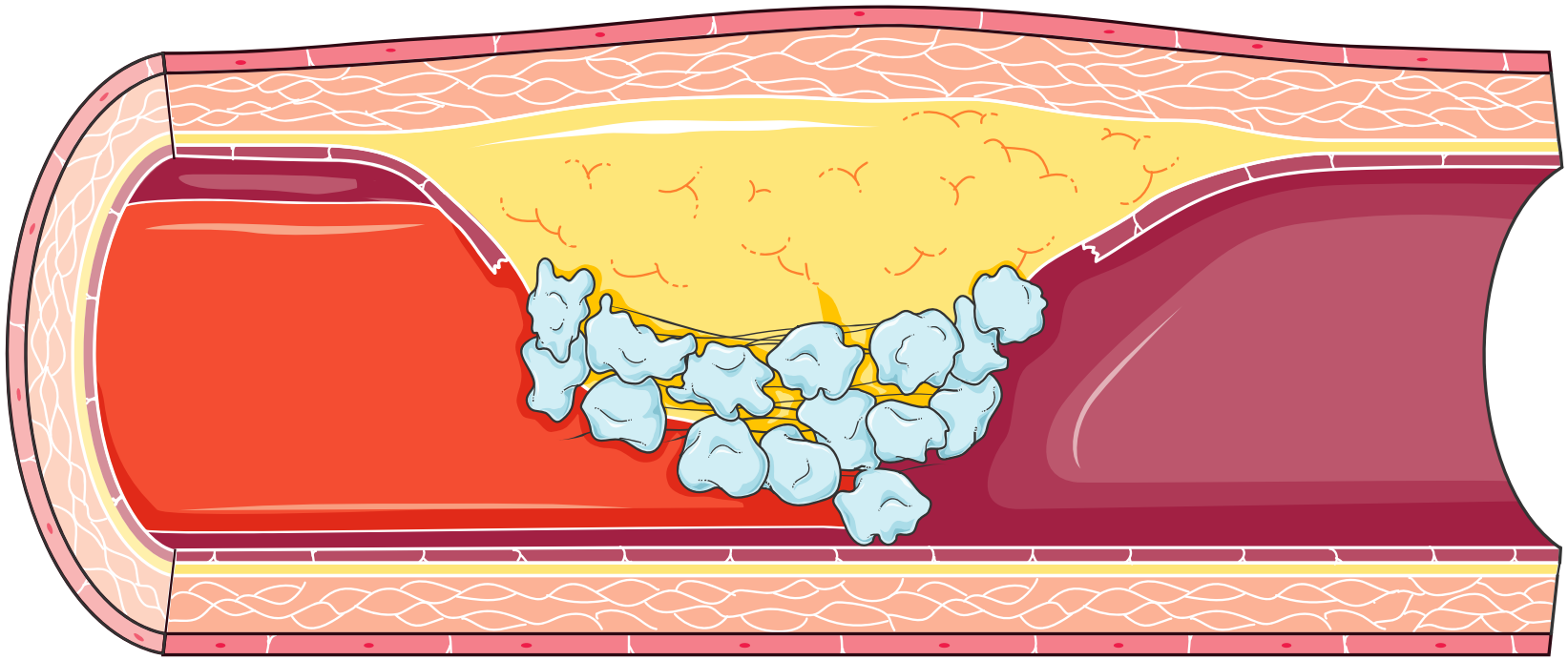
Ursachen der Myokardischämie

- **Koronarsklerose**
- Koronarspasmus / Myokardbrücken
- Koronarfisteln + Aneurysmen
- Bland-White-Garland-Syndrom



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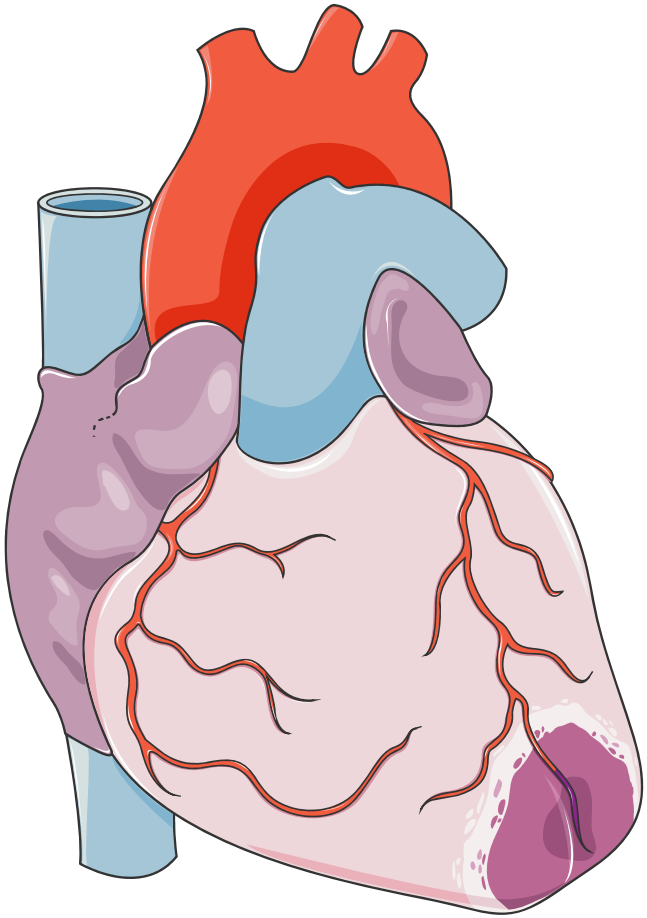
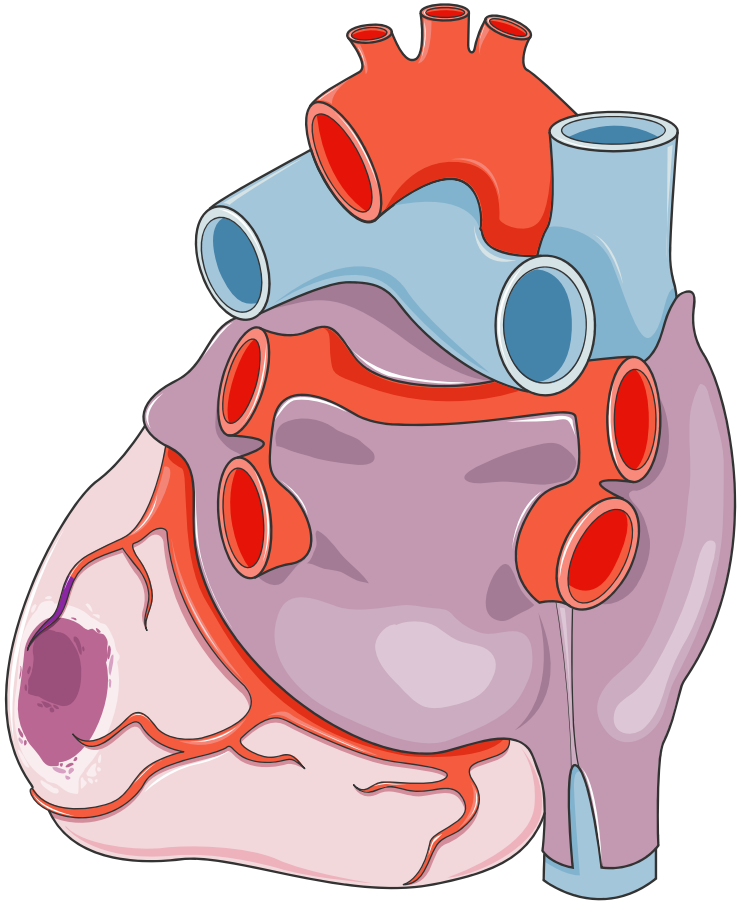


Apikaler Infarkt



Posterolateraler Infrakt

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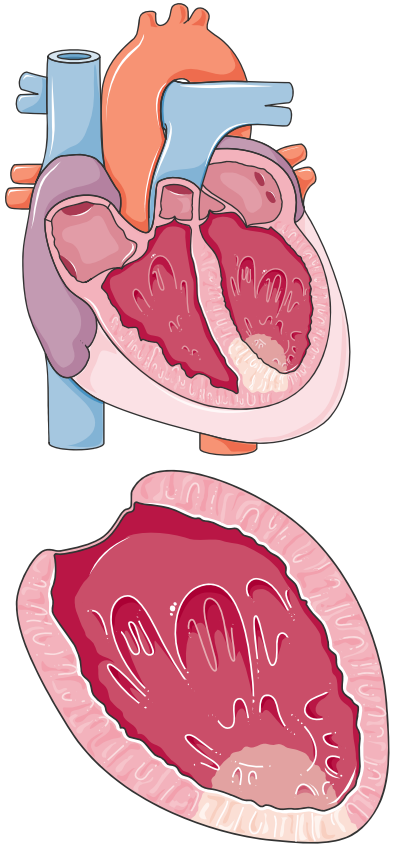
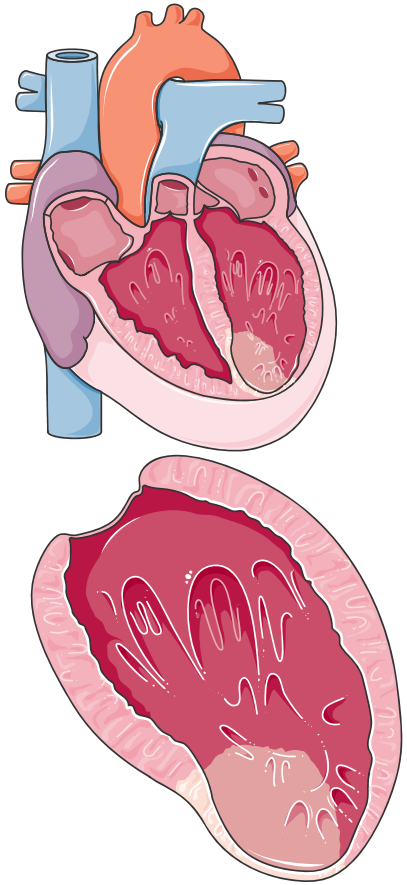
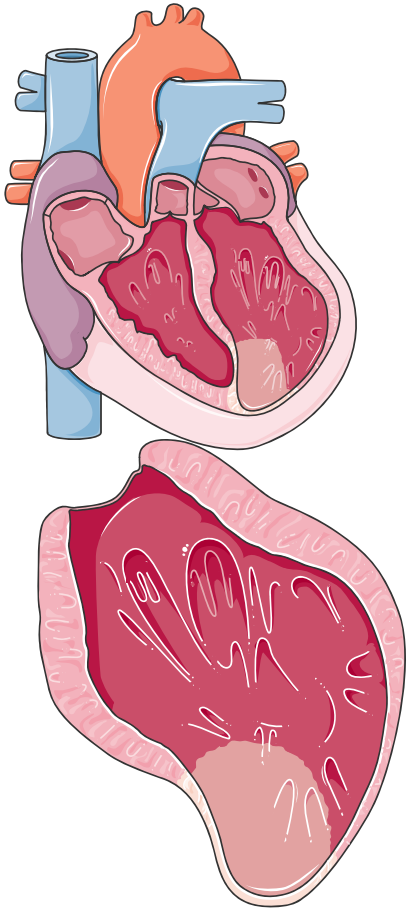
Remodeling



Stunden



Stunden bis Tage



Wochen

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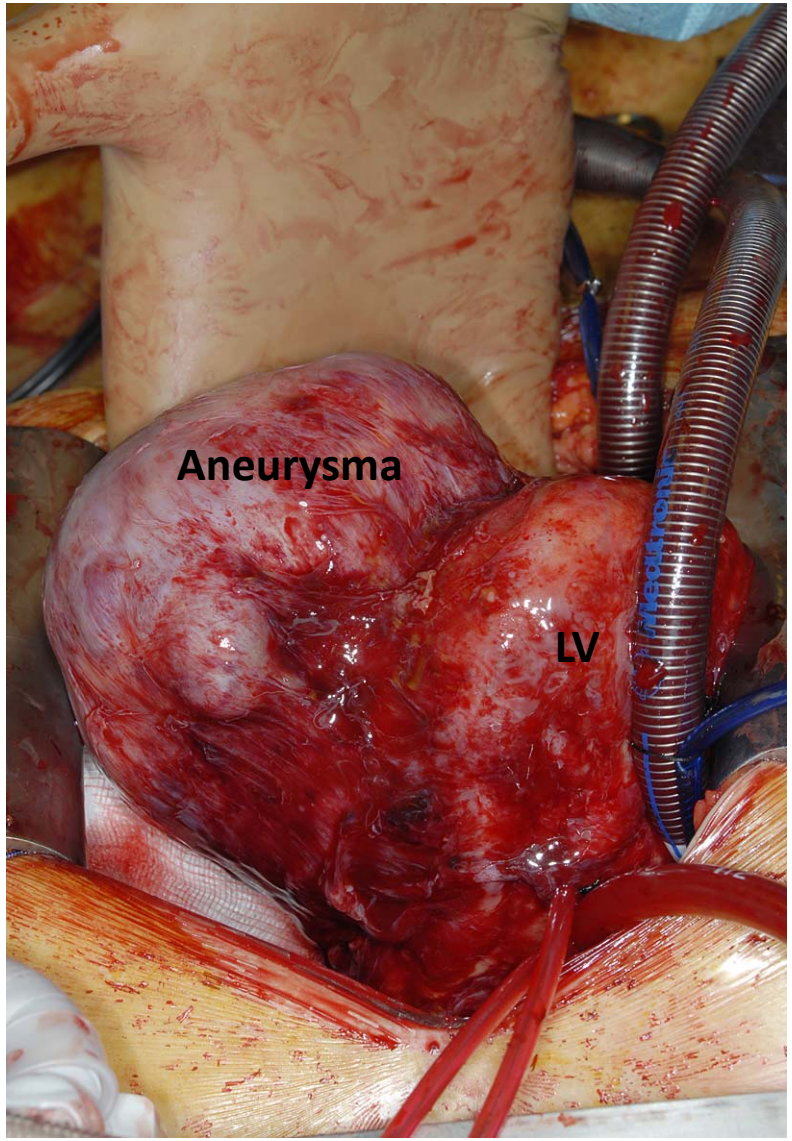

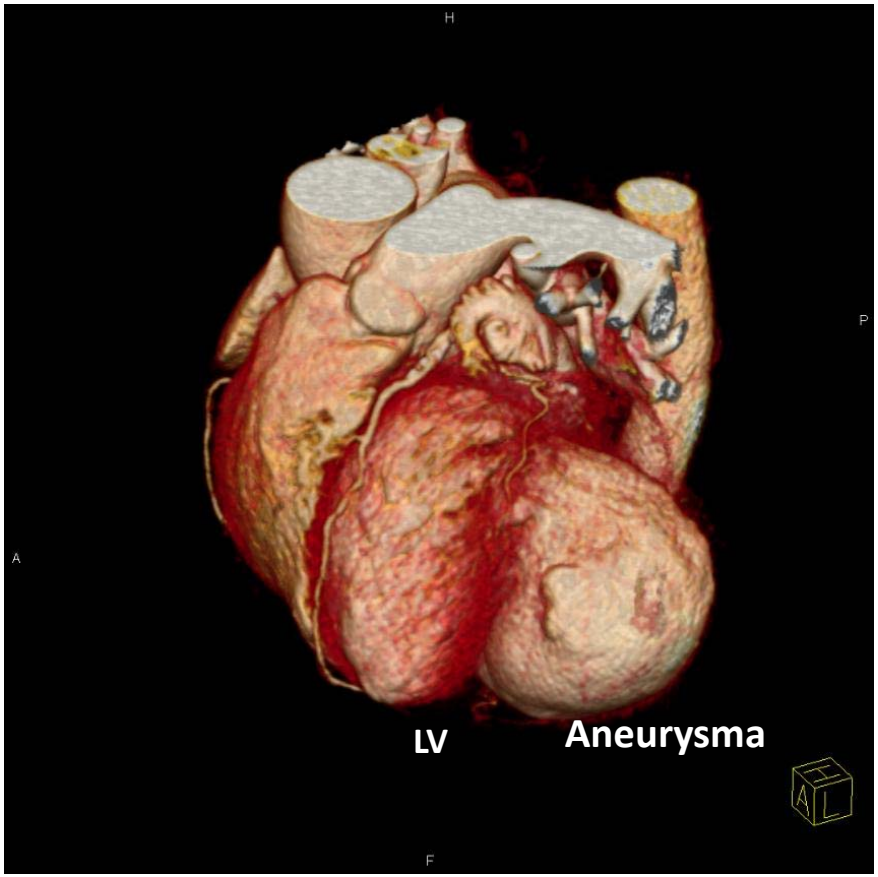

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Folgeerkrankungen des Herzinfarktes

- Mitralinsuffizienz
- (Papillarmuskel- und Chordaeabriss, Ringdilatation)
- Ventrikelseptumdefekt
- Ventrikelaneurysma / perforation
- Rhythmusstörungen
- ischämische Kardiomyopathie

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Erstmanifestation der KHK

- Angina pectoris 40%
- Herzinfarkt 40%
- Plötzlicher Herztod 20%

(> 100.000/a, häufigste Todesursache ausserhalb Spital)

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Ziele der Bypass-Operation

- Überlebensrate
- Beschwerdefreiheit
- Leistungsfähigkeit ↑
- Medikamentengabe ↓
- Lebensqualität / Berufsfähigkeit

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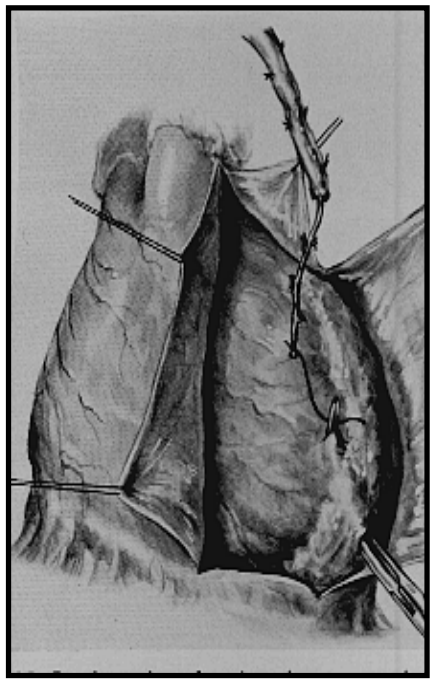
Geschichte der Koronarchirurgie

- 1951 Vineberg - Operation
- 1958 Longmire - TEA
- 1960 Sones - Koronarographie
- 1961 Senning - Patch
- 1964 Kolessov - LIMA-RIVA
- 1967 Favaloro - Venen-Bypass
- 1968 Green - bilat. IMA
- 1971 Johnson - sequent. Bypass
- 1998 Mohr/Falk - endoskop. LIMA-RIVA



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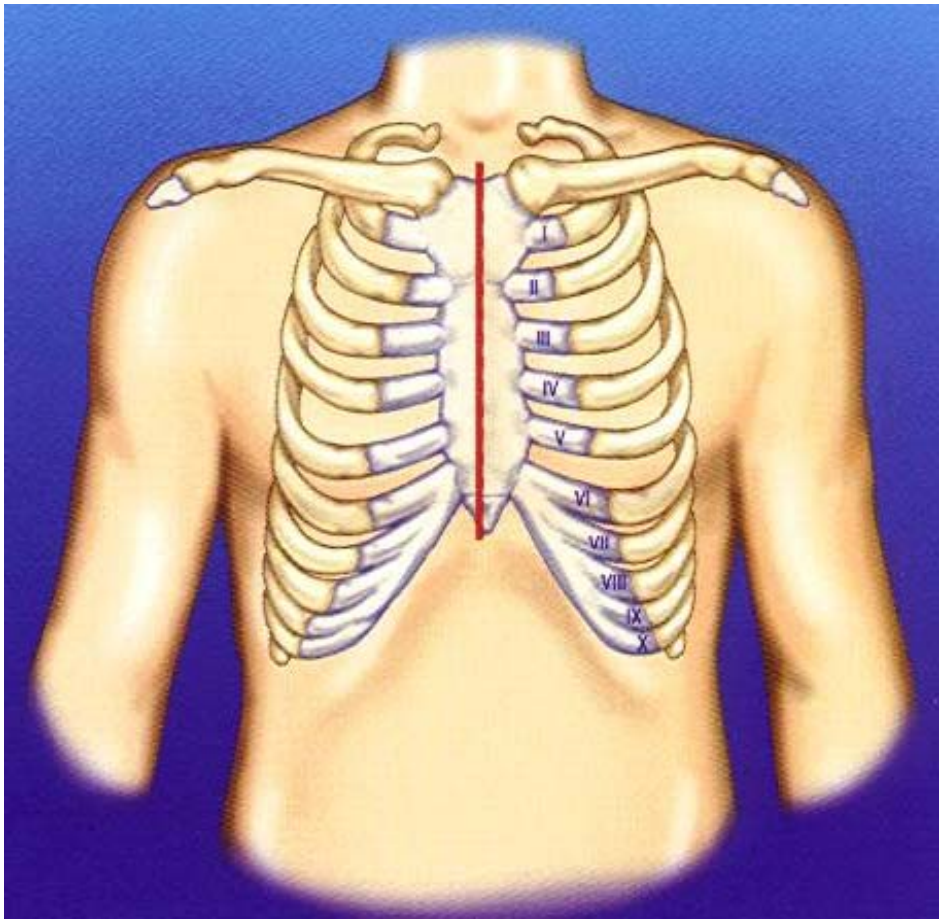
Operationsablauf - Sternotomie



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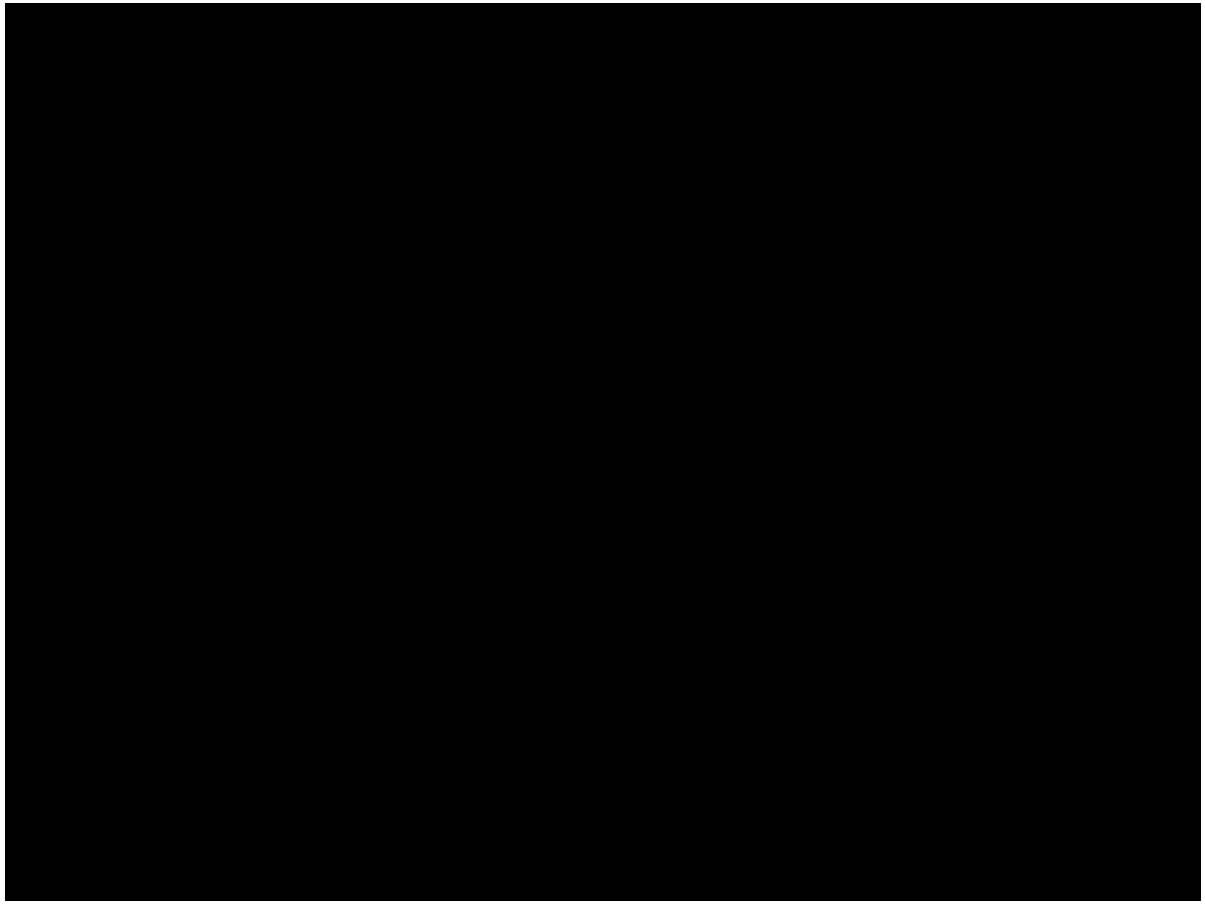

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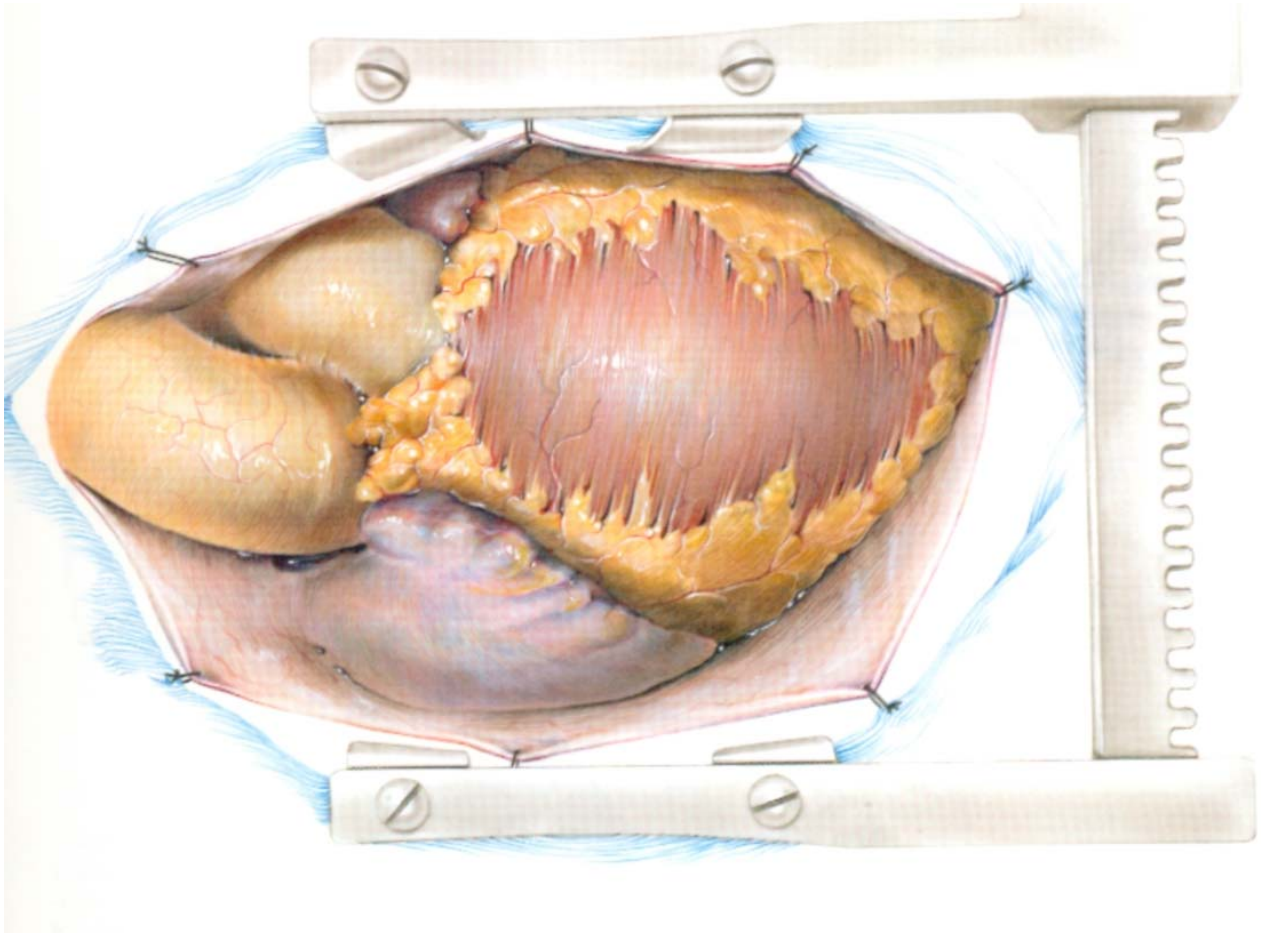

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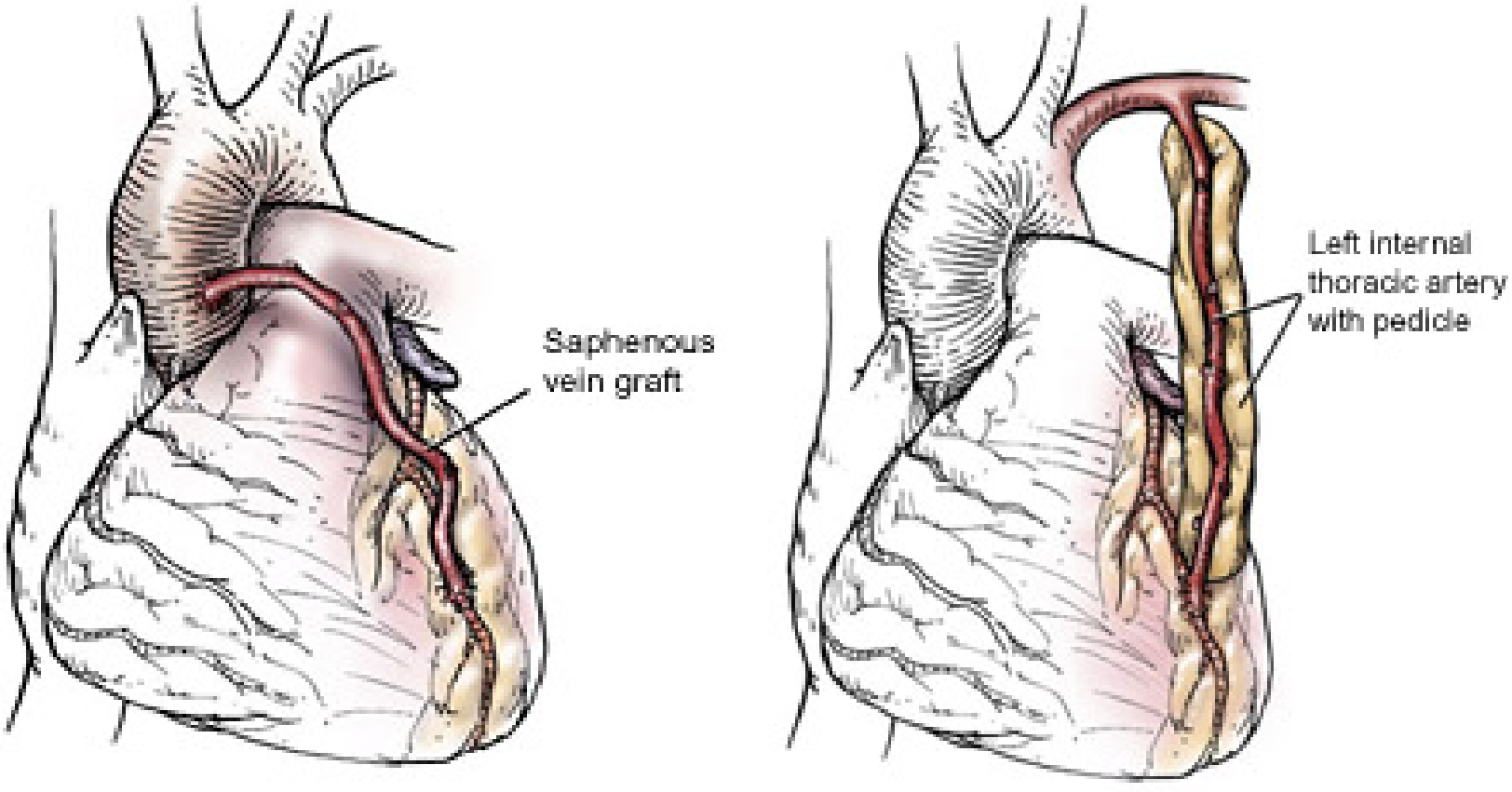
Wahl der Bypass-Gefässe



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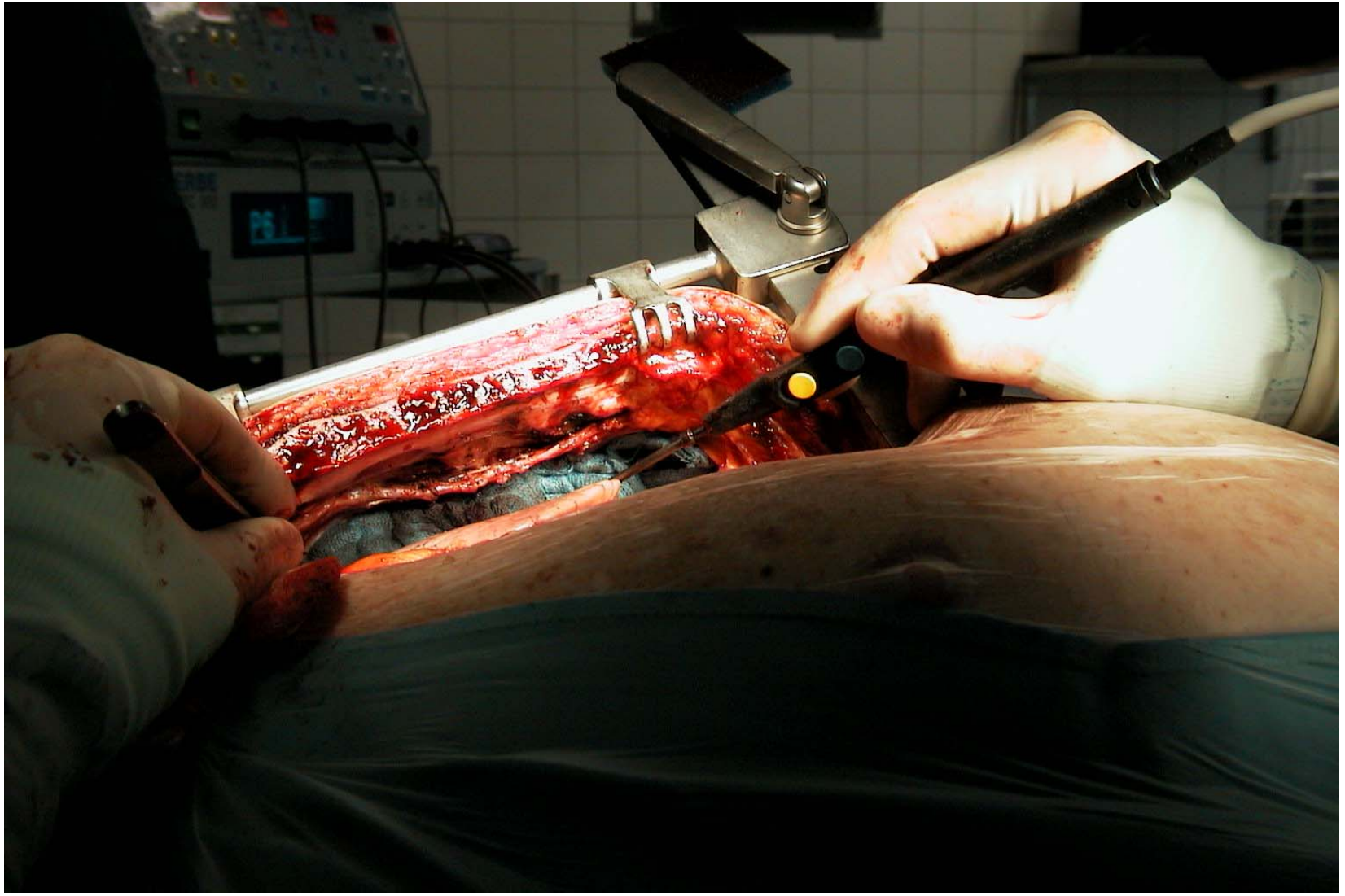

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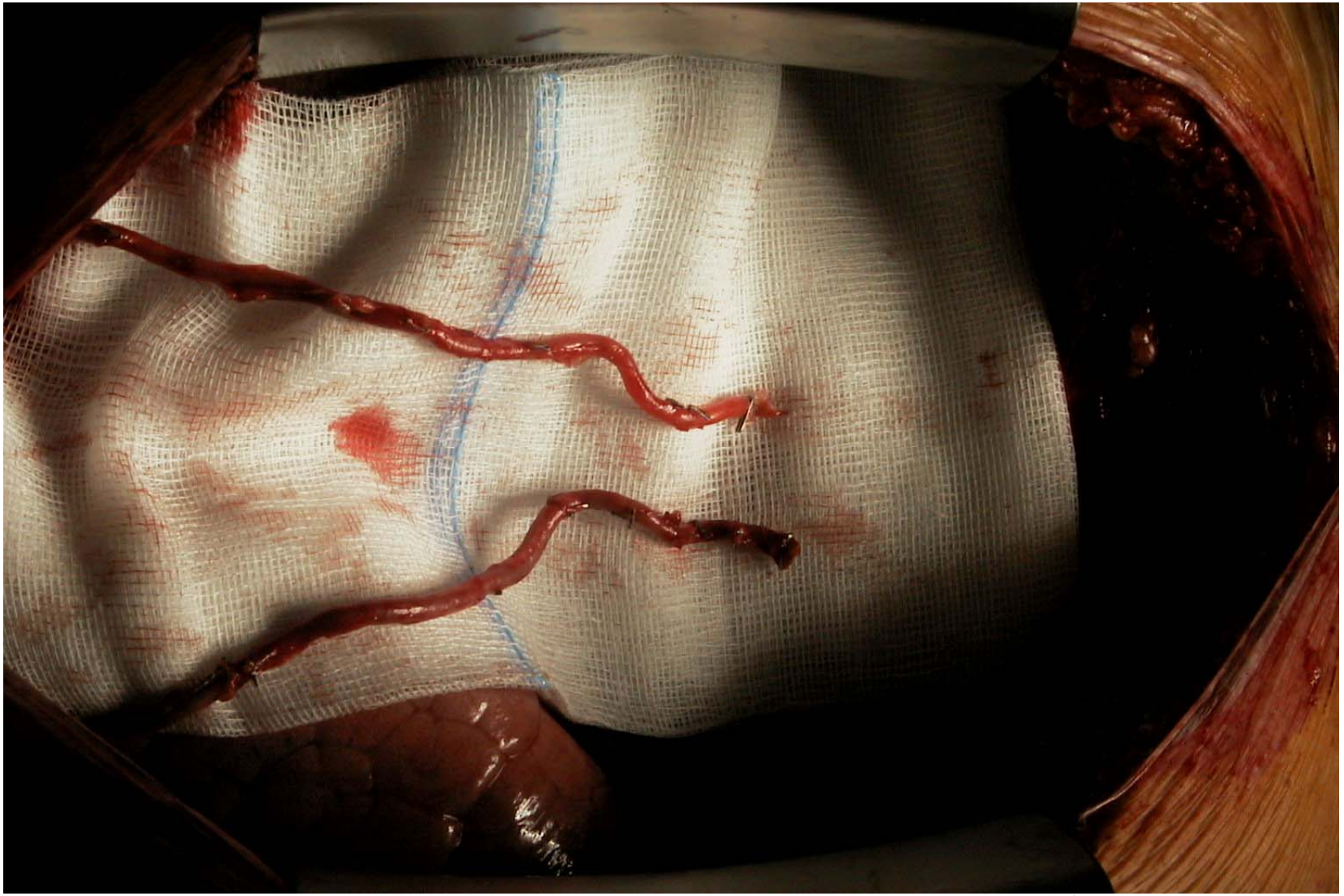

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Operationsablauf – Entnahme A.radialis

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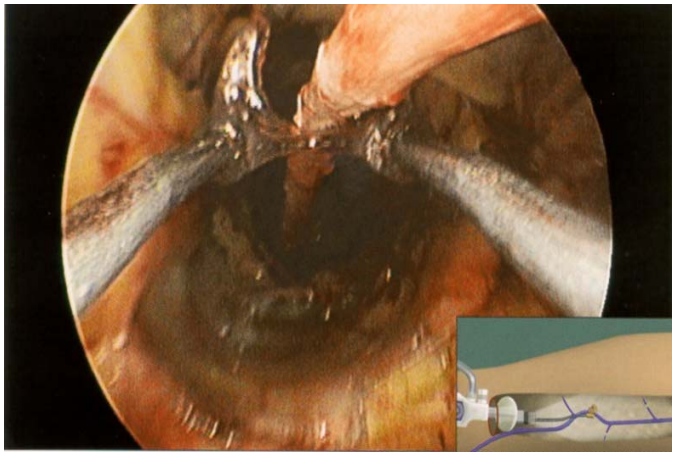
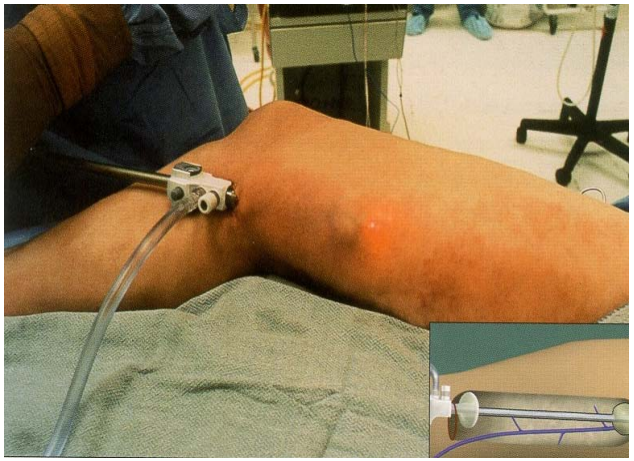
Präparation der V. saphena magna





endoskopisch

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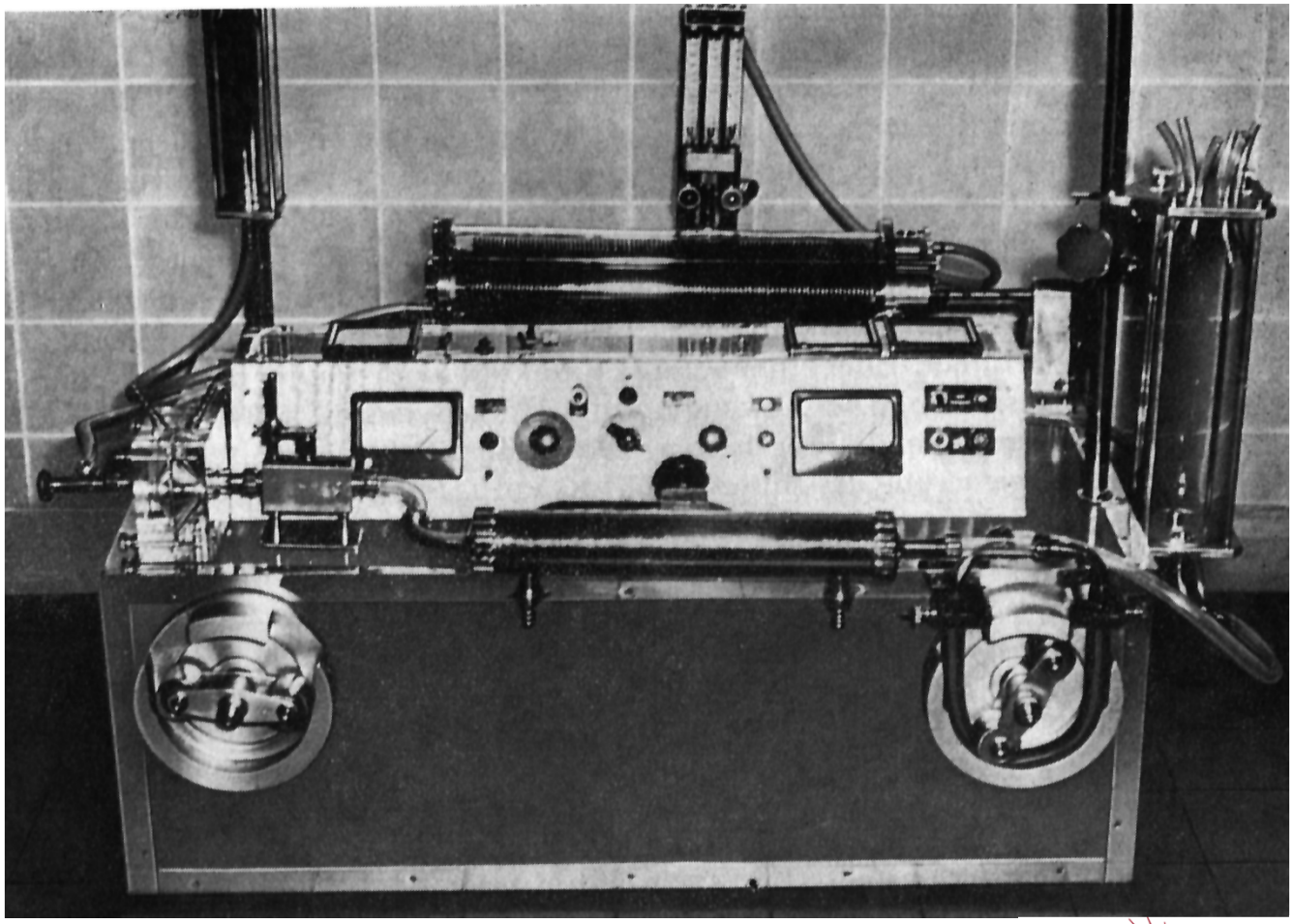
Erste Herzlungenmaschine in Zürich



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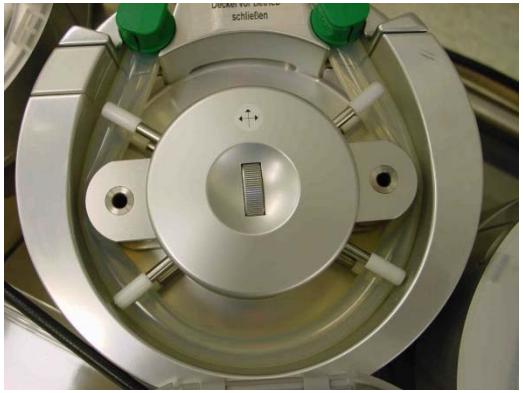
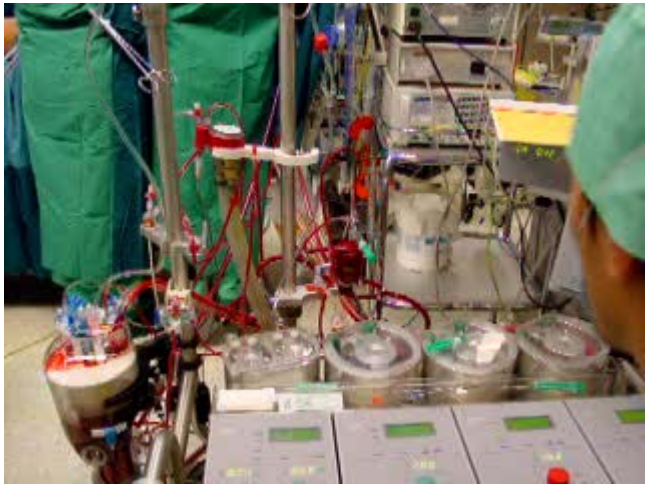
Herzlungenmaschine heute





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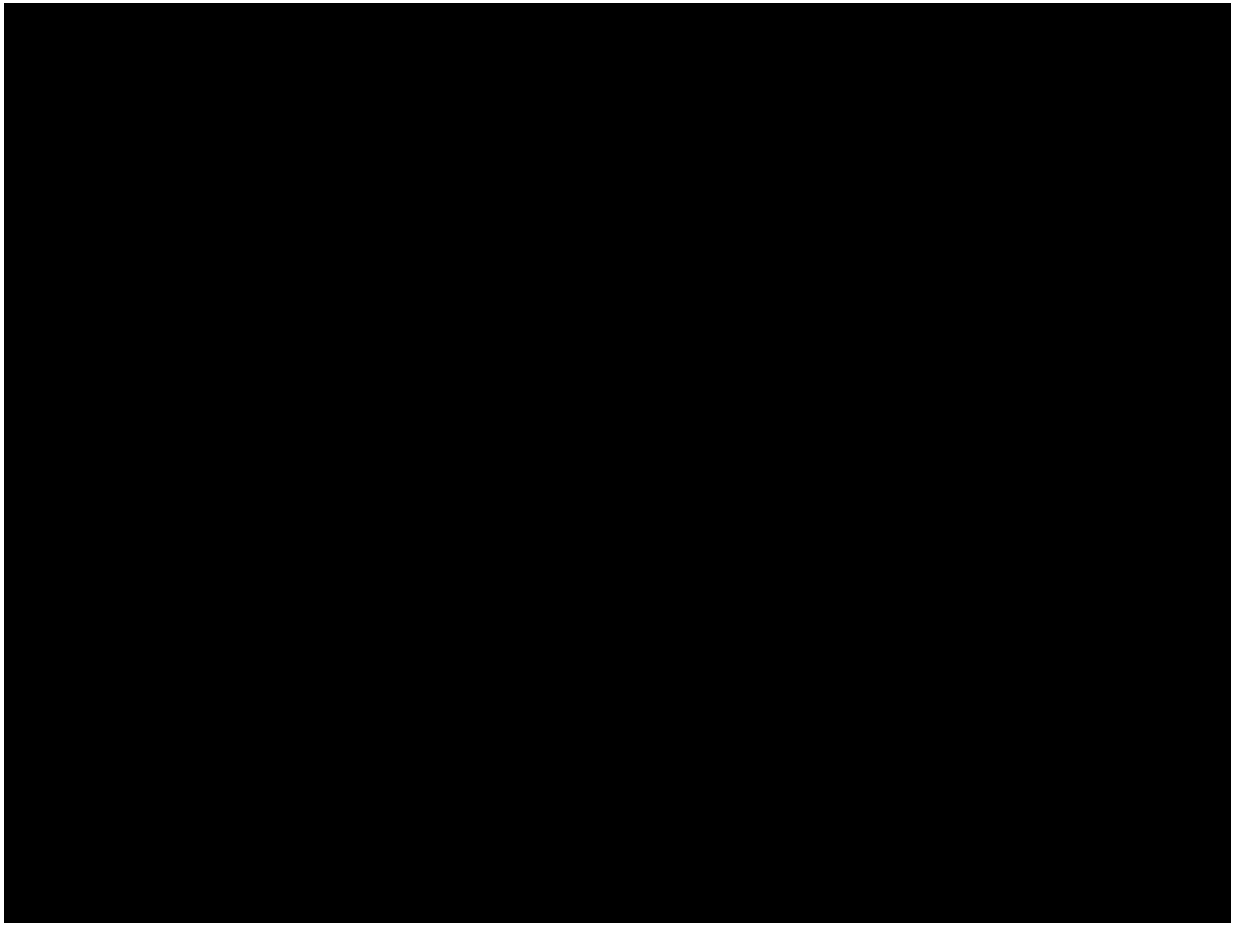
Operationsablauf – Anschluss HLM



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Operationsablauf – Bypassanlage

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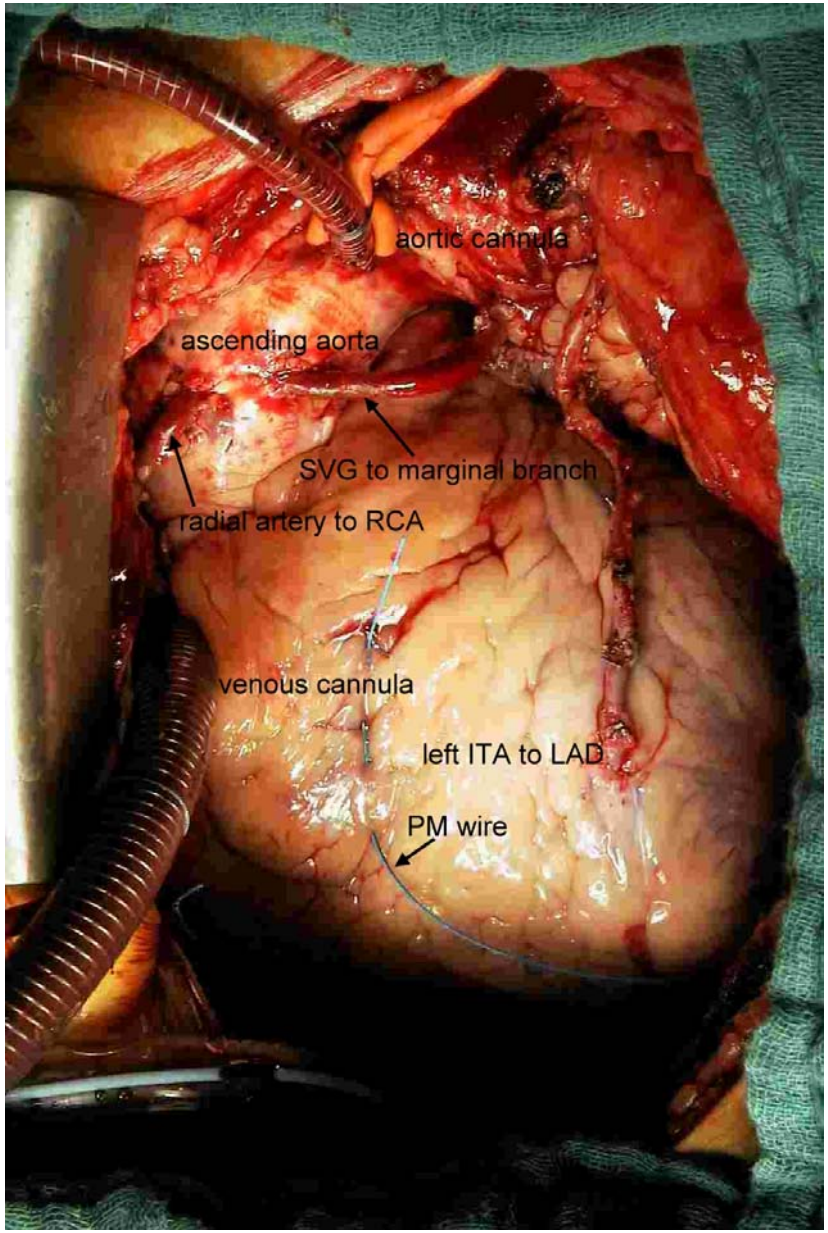

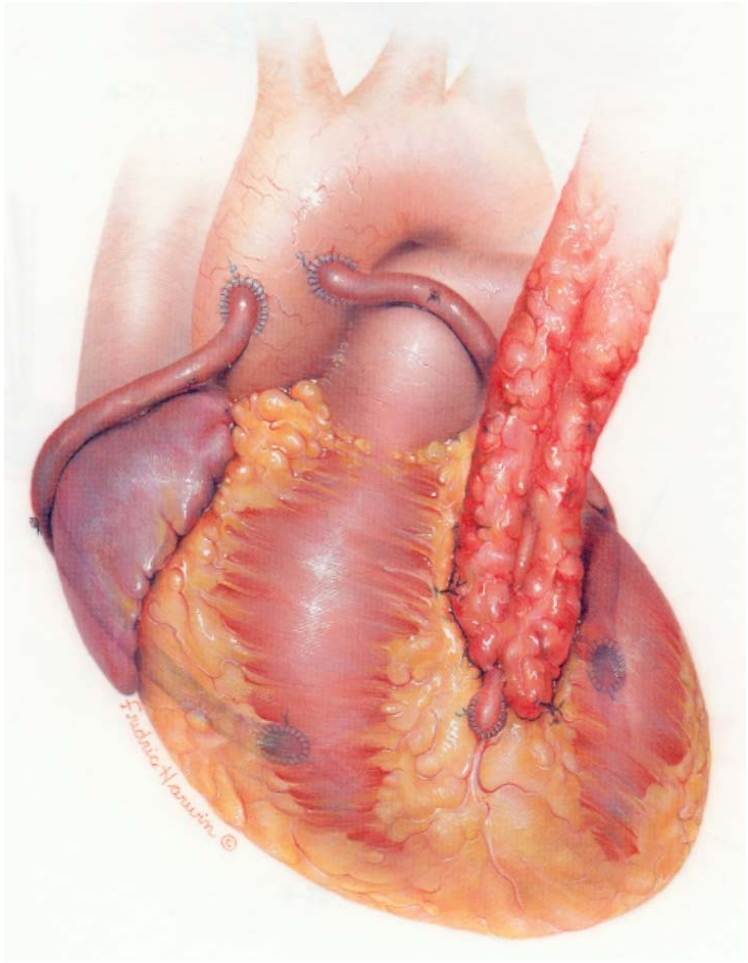

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Operationsablauf – Sternumverschluss

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NY-Registry: Die reale Welt

ORIGINAL ARTICLE

Long-Term Outcomes of Coronary-Artery Bypass Grafting versus Stent Implantation

Edward L. Hannan, Ph.D., Michael J. Racz, Ph.D., Gary Walford, M.D., Robert H. Jones, M.D., Thomas J. Ryan, M.D., Edward Bennett, M.D., Alfred T. Culliford, M.D., O. Wayne Isom, M.D., Jeffrey P. Gold, M.D., and Eric A. Rose, M.D.

METHODS

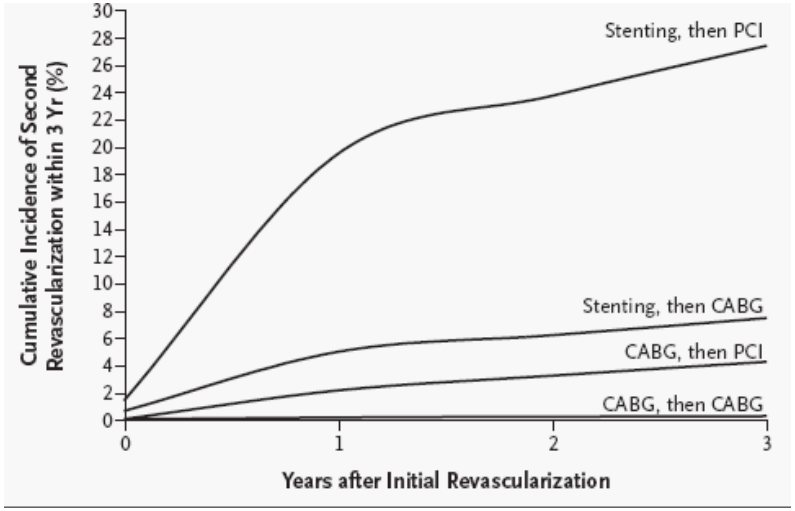
We used New York's cardiac registries to identify 37,212 patients with multivessel disease who underwent CABG and 22,102 patients with multivessel disease who underwent PCI from January 1, 1997, to December 31, 2000. We determined the rates of death and subsequent revascularization within three years after the procedure in various groups of patients according to the number of diseased vessels and the presence or absence of involvement of the left anterior descending coronary artery. The rates of adverse outcomes were adjusted by means of proportional-hazards methods to account for differences in patients' severity of illness before revascularization.

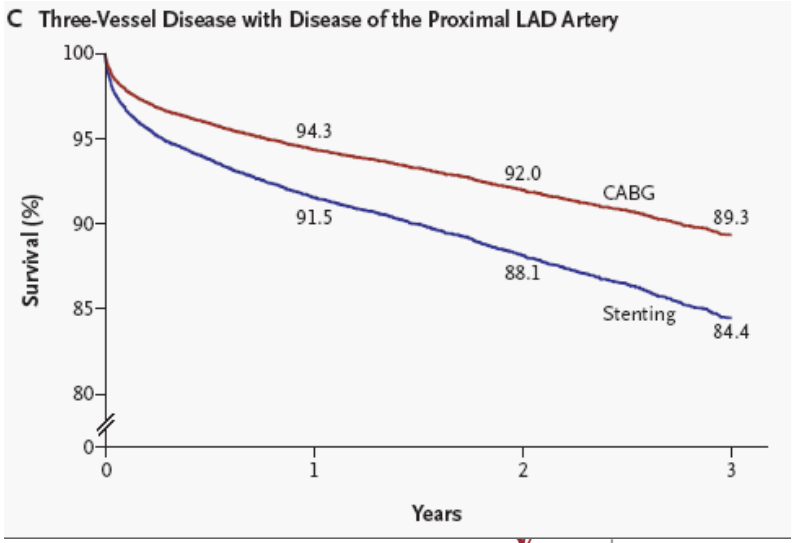
RESULTS

Risk-adjusted survival rates were significantly higher among patients who underwent CABG than among those who received a stent in all of the anatomical subgroups studied. For example, the adjusted hazard ratio for the long-term risk of death after CABG relative to stent implantation was 0.64 (95 percent confidence interval, 0.56 to 0.74) for patients with three-vessel disease with involvement of the proximal left anterior descending coronary artery and 0.76 (95 percent confidence interval, 0.60 to 0.96) for patients with two-vessel disease with involvement of the nonproximal left anterior descending coronary artery. Also, the three-year rates of revascularization were considerably higher in the stenting group than in the CABG group (7.8 percent vs. 0.3 percent for subsequent CABG and 27.3 percent vs. 4.6 percent for subsequent PCI).

CONCLUSIONS

For patients with two or more diseased coronary arteries, CABG is associated with higher adjusted rates of long-term survival than stenting.





Hannan EL et al. N Engl J Med 2005

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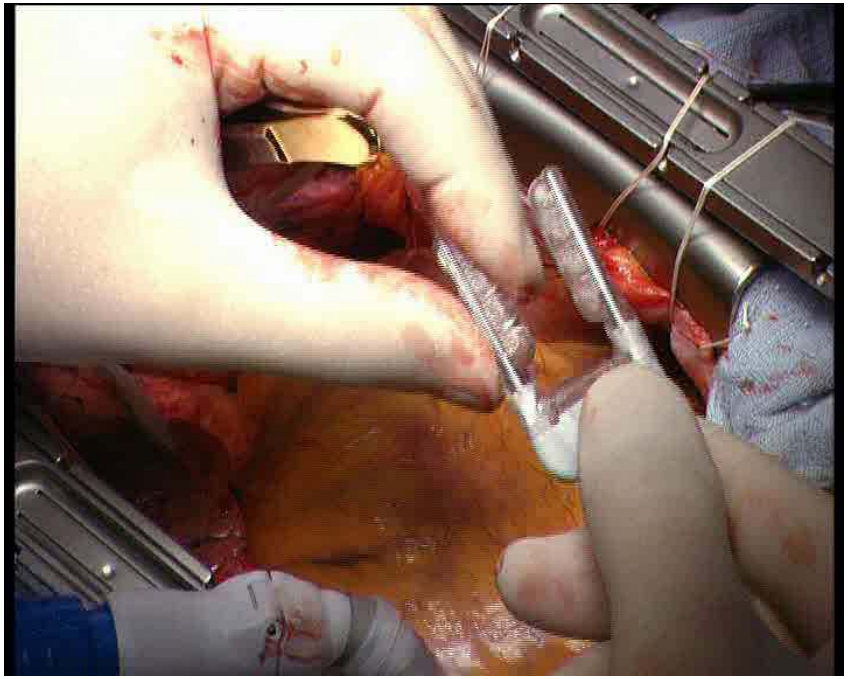
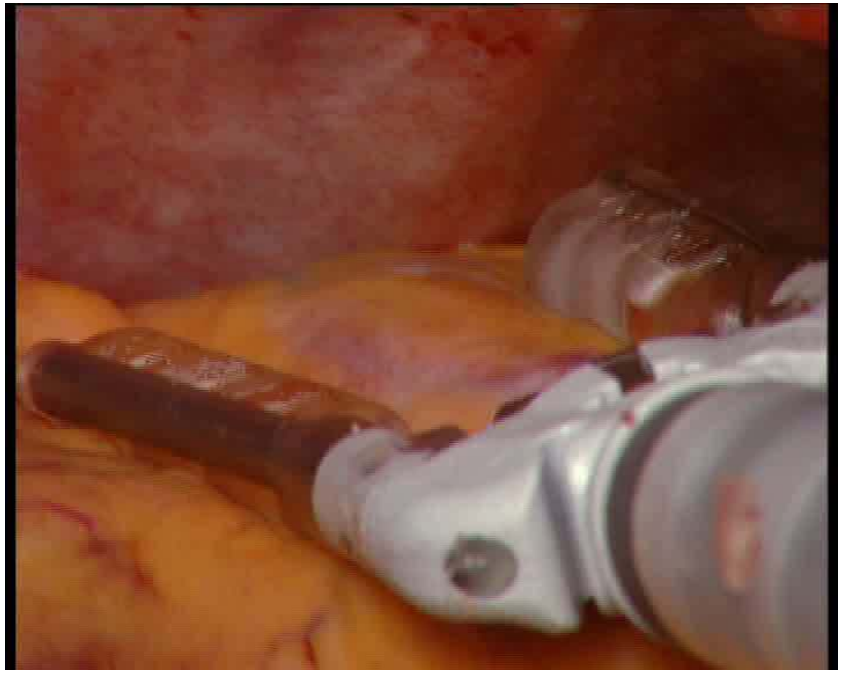
Neue Operationstechniken

Bypassoperation ohne Herz-Lungenmaschine (off-pump)





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Operationen am schlagenden Herzen

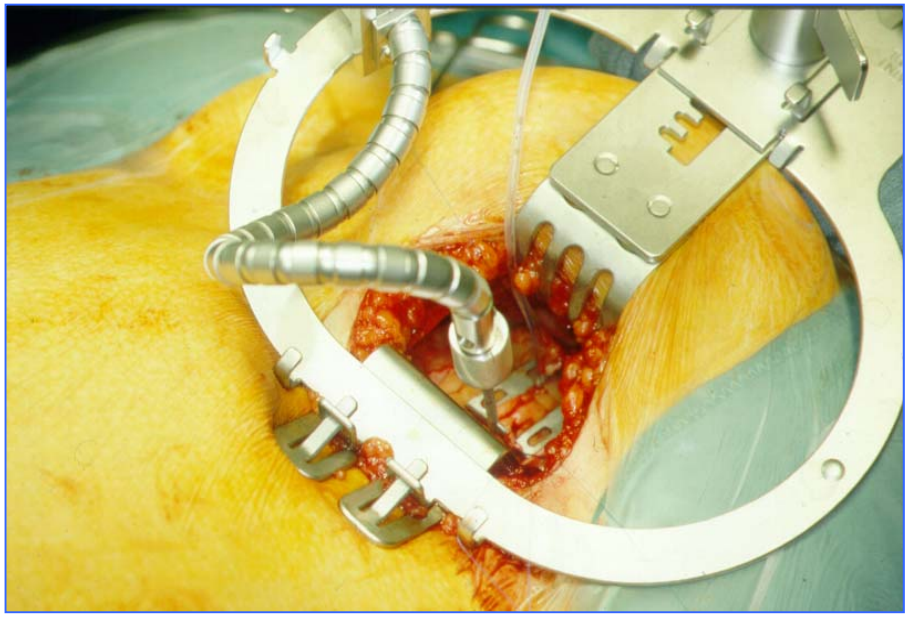
- Verzicht auf HLM
- lokale mechanische Immobilisierung

Vorteile:

- geringere entzündliche Antwort (SIRS)
- weniger neurologische Defizite (Embolien)
- geringere Beeinflussung des Gerinnungssystems
- Organprotektiv

MIDCAB-OP

Bypassoperation ohne Herz-Lungenmaschine und ohne Eröffnung des Brustkorbs



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Zusammenfassung

- Bypassoperation immer noch eine der häufigsten und erfolgreichsten Operationen weltweit!
- Hospitalisation 1 Woche, Rehabilitationsaufenthalt 3-4 Wochen
- Beschwerdefreiheit
- Nachgewiesene gute und stabile Langzeitresultate

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Bypass oder Stent?

Entscheidung im Heart Team

=

Kardiologe und Herzchirurge

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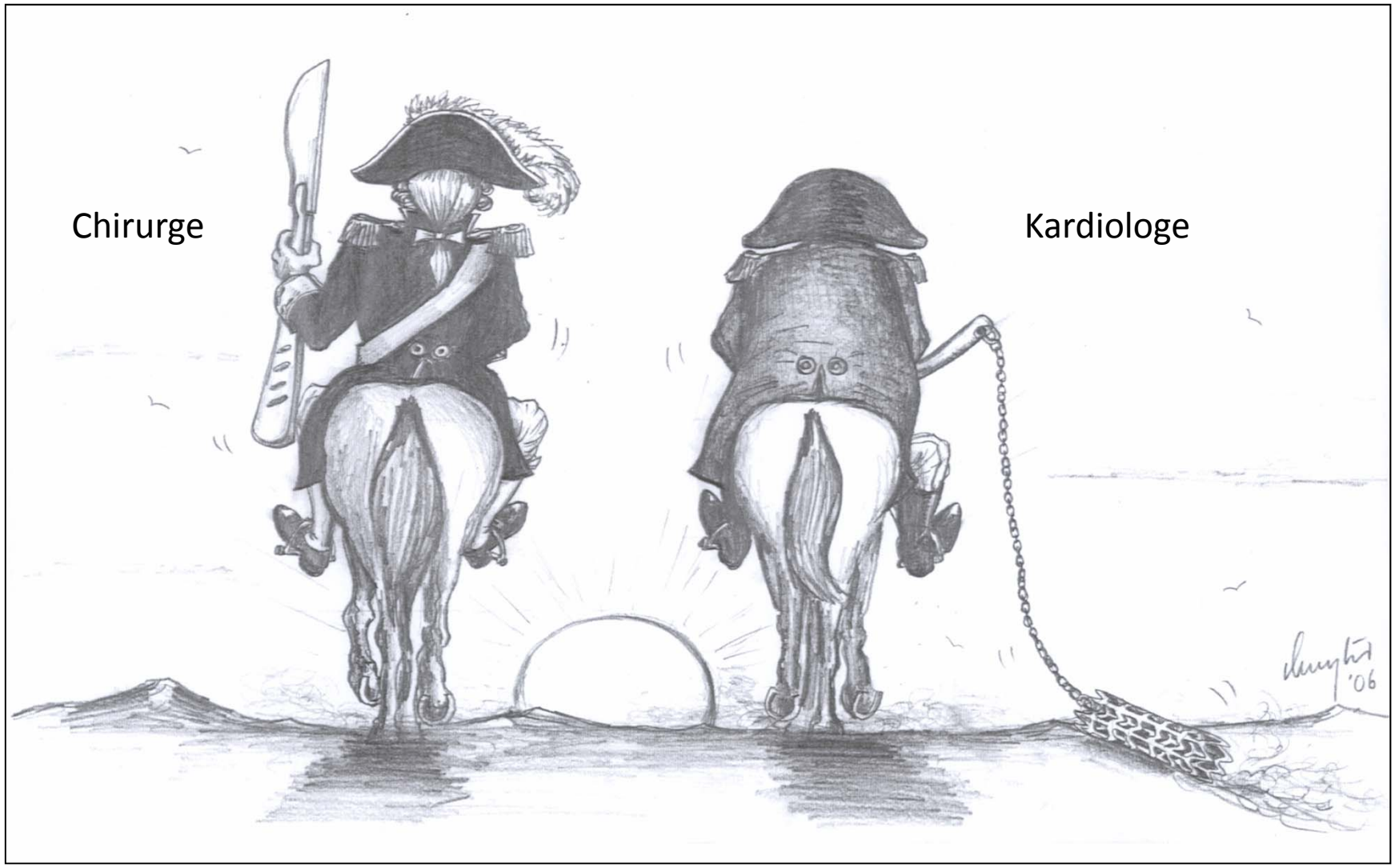

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