A. femoralis communis

Gemeinsam besser

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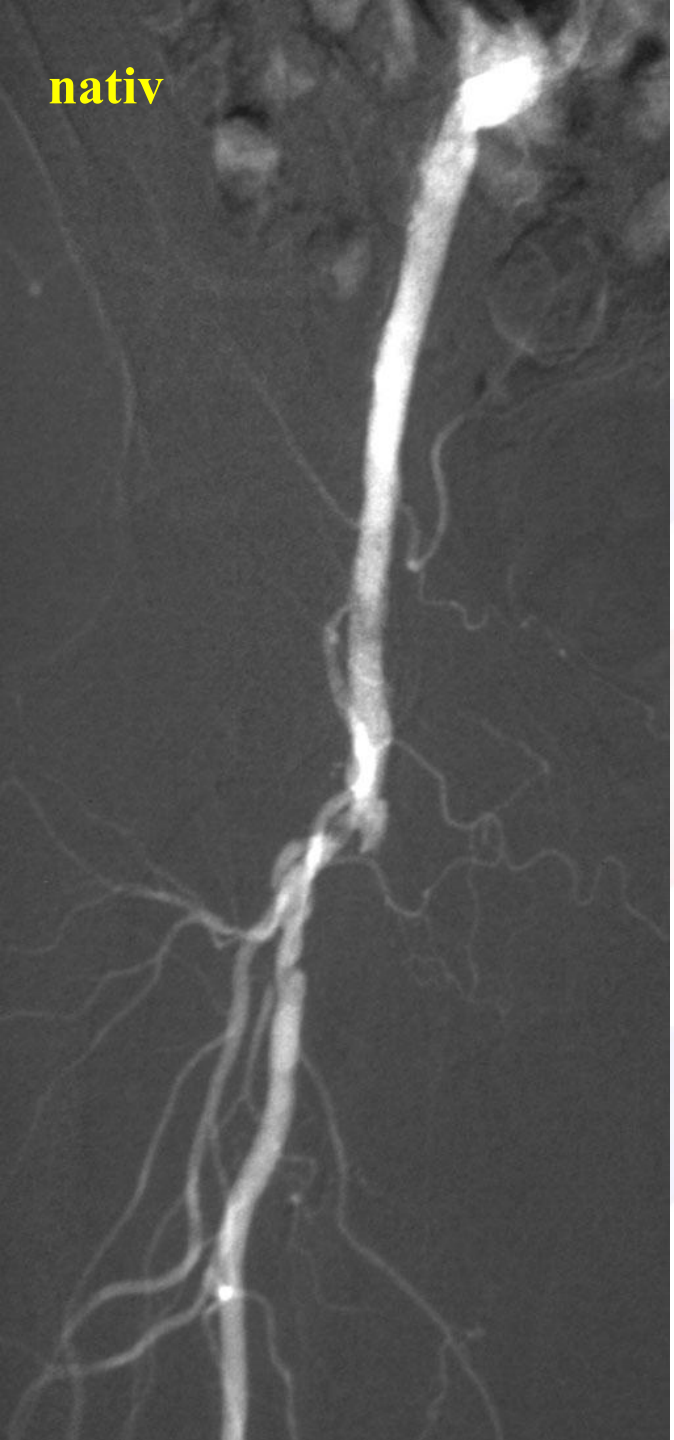
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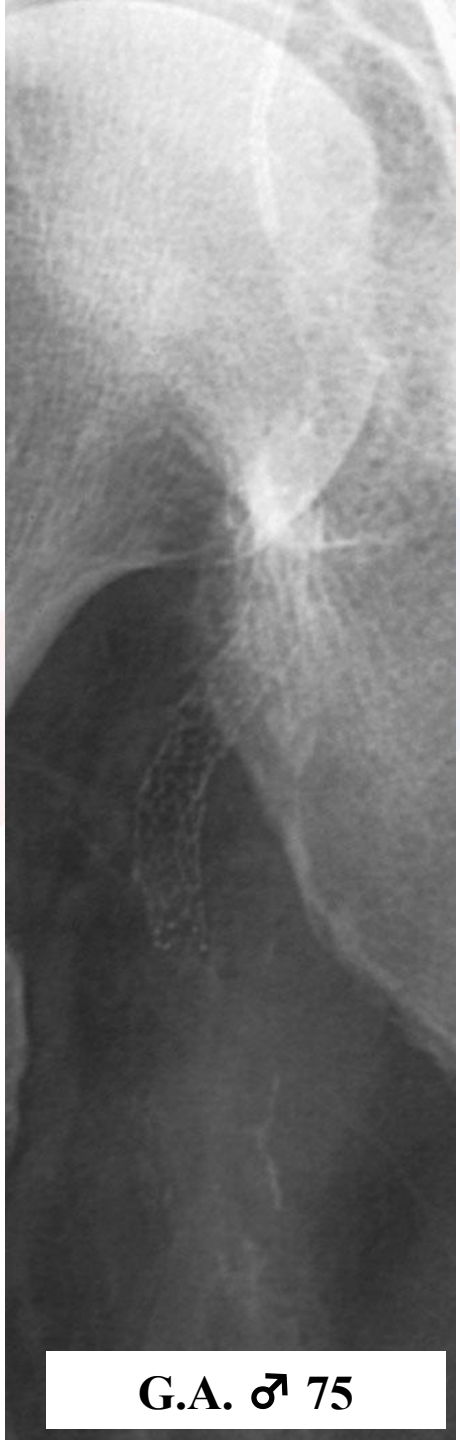
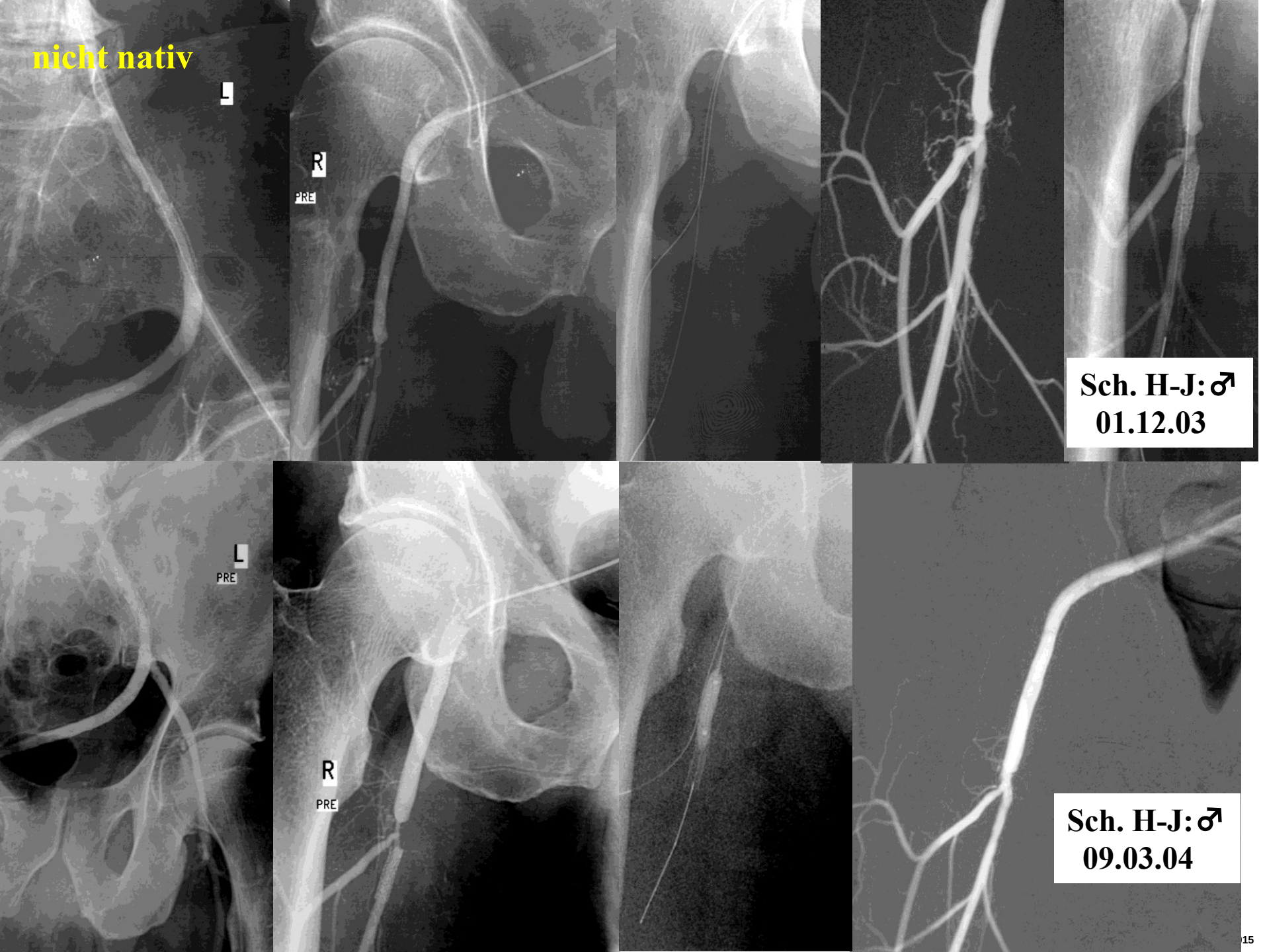

G.A. ♂ 75


nicht nativ
L
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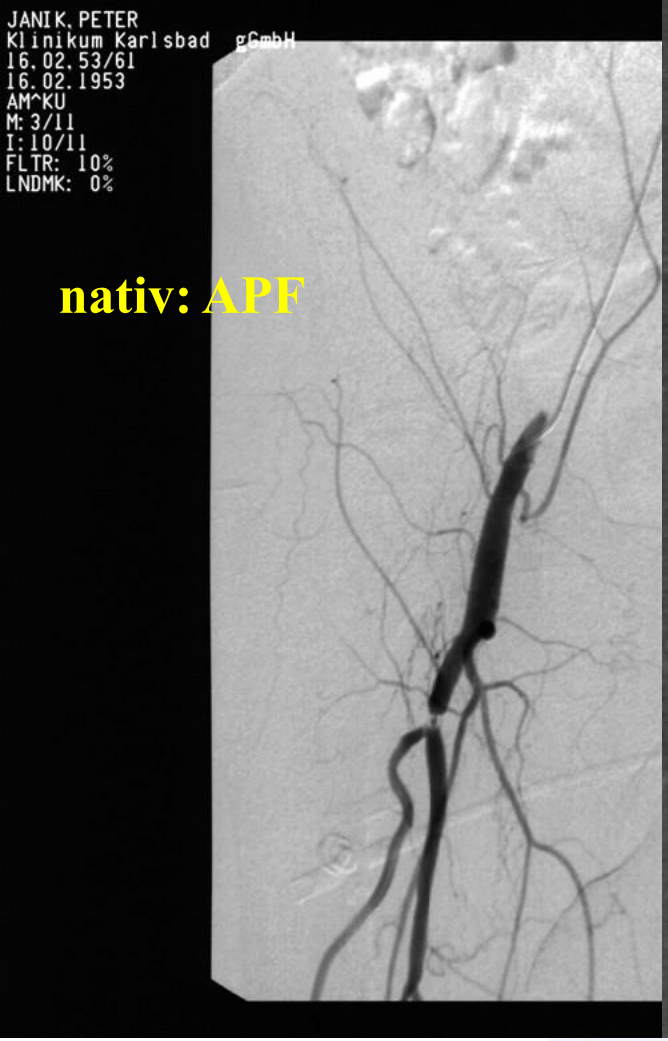
Sch. H-J: ♂
09.03.04

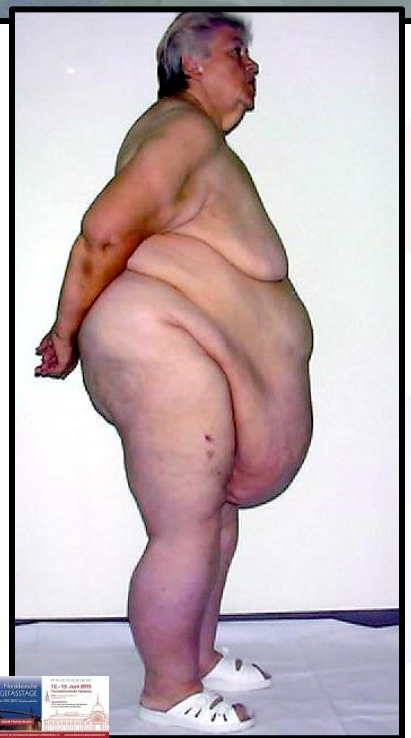


nativ: APF

J.P. ♂ 46 (1953)
PTA 1999

Gefäßzentrum Oberrhein

Das biologische Problem



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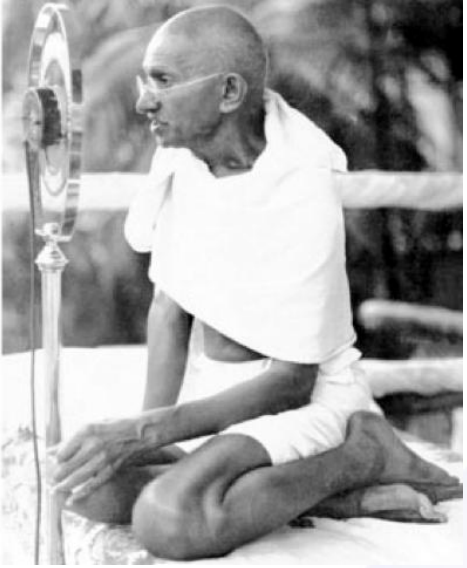
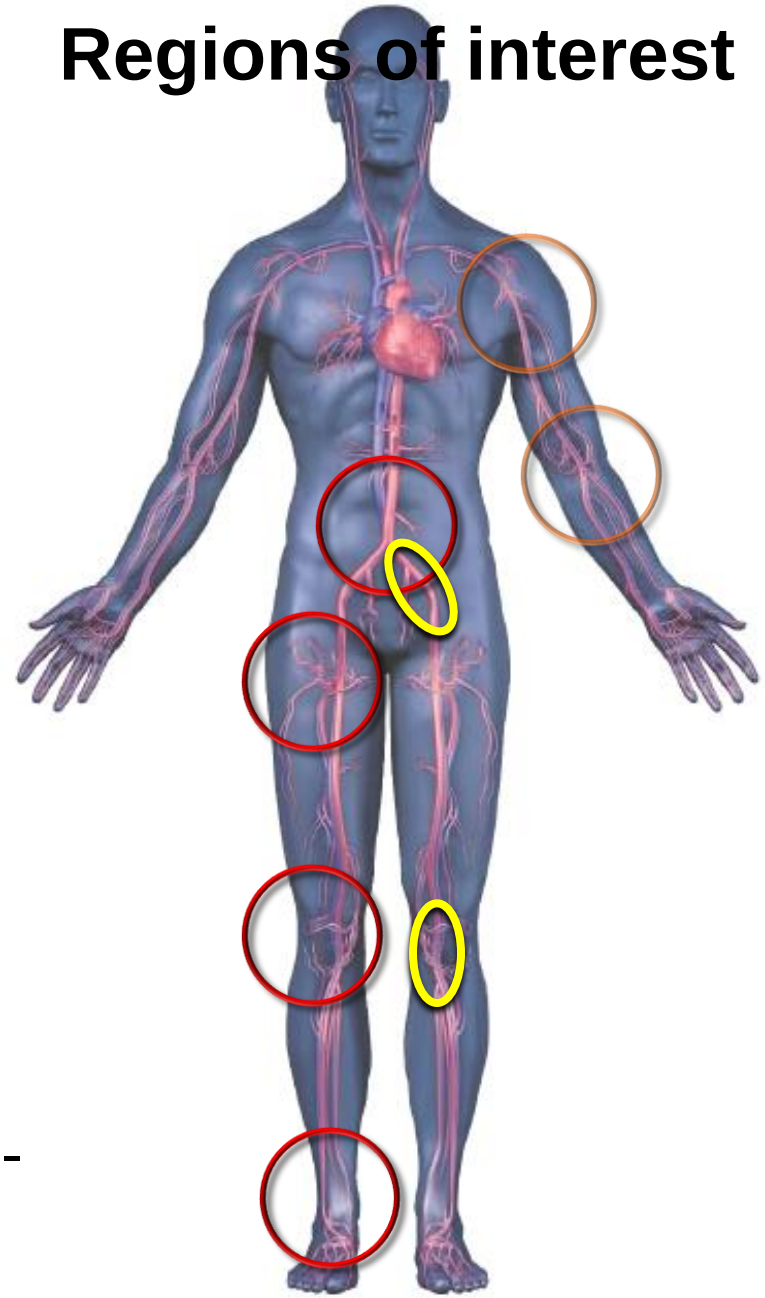


Regions of interest



: Gelenk-Stress

: Muskel-Kompressions-Stress

Hüftgelenk:
(Kugelgelenk)

- Beugung
- Rotation
- Abduktion

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Stents

6.5 Kritische Extremitätenischämie

6.5 .... Die Implantation von Stents in Gefäßsegmente, die potenziell für Bypass-Anastomosen in Betracht kommen, sollte immer dann vermieden werden, wenn für Patienten künftig gefäßchirurgische Behandlungsoptionen bestehen. Bei der Behandlung ***distaler Läsionen der A. iliaca externa*** sollte im Falle einer notwendigen ***Stentimplantation diese die A. femoralis communis nicht betreffen.***

6.5 ...Die Implantation von Stents in ***komplexe Bewegungssegmente oder gelenküberschreitende*** Stentimplantationen sind ***problematisch*** und mit einem hohen Verschlussrisiko behaftet (165). In Kenntnis der biomechanischen Belastung der nativen Gefäße und der Veränderungen arteriosklerotisch alterierter Blutgefäße sind Stents in den Bewegungssegmenten einer extremen Belastung ausgesetzt. Insbesondere in der ***Poplitealarterie*** ist diese Belastung sehr groß. MR-angiographische Untersuchungen belegen eine erhöhte Belastung des supra- und periartikulären Segments (166). Die distale Poplitealarterie ist kein Bewegungssegment ***Stentfrakturen in der Leistenbeuge und im ersten und zweiten Poplitealsegment sind klinisch häufig*** (167).

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Was wissen wir über das Verhalten von Arterien bei physiologischen Bewegungen der Beine

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Smouse HB, Nikanorov A, LaFlash NBiomechanical Forces in the ***Femoropopliteal Arterial*** SegmentWhat happens during extremity movement and what is the effect on stenting?. EV Today **2005**; :60-66.

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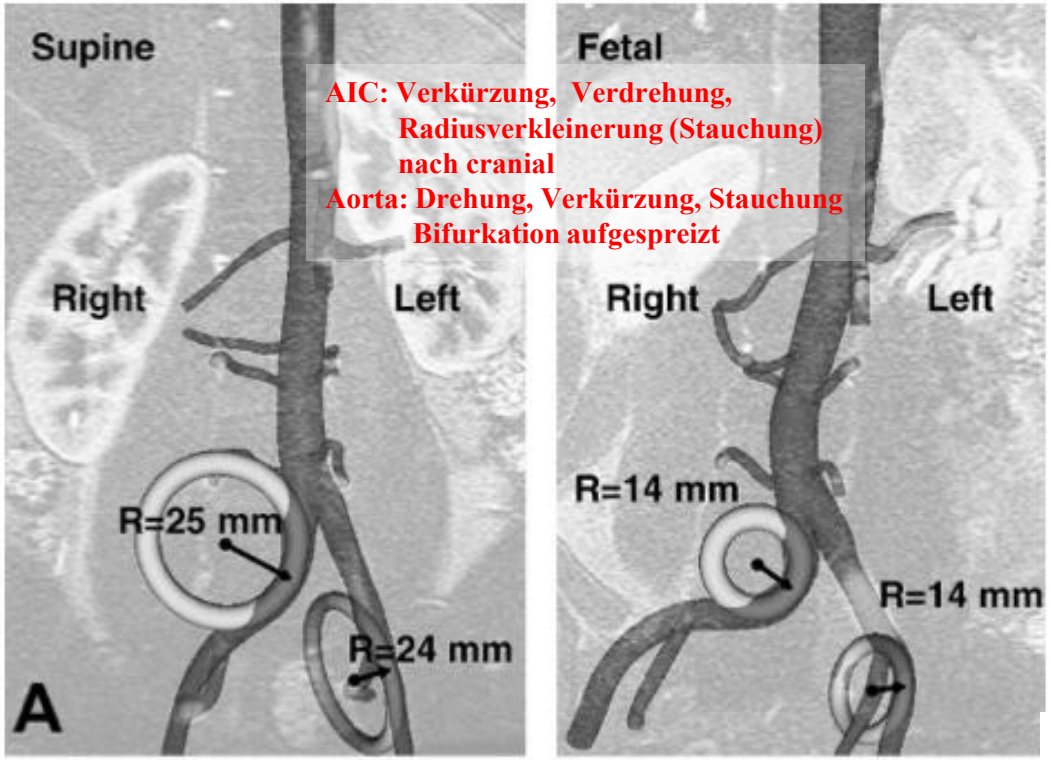
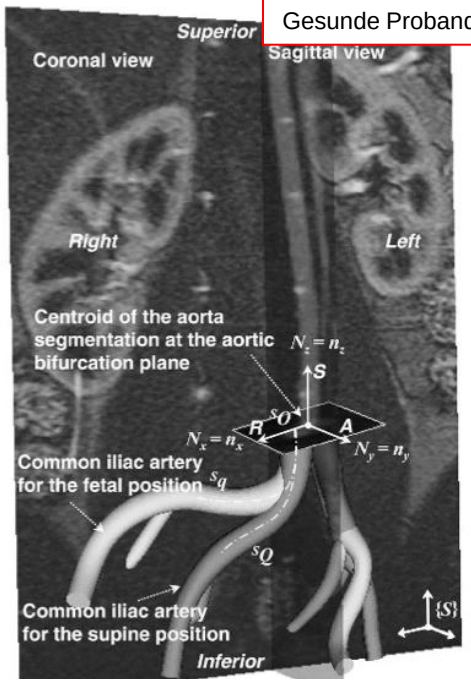
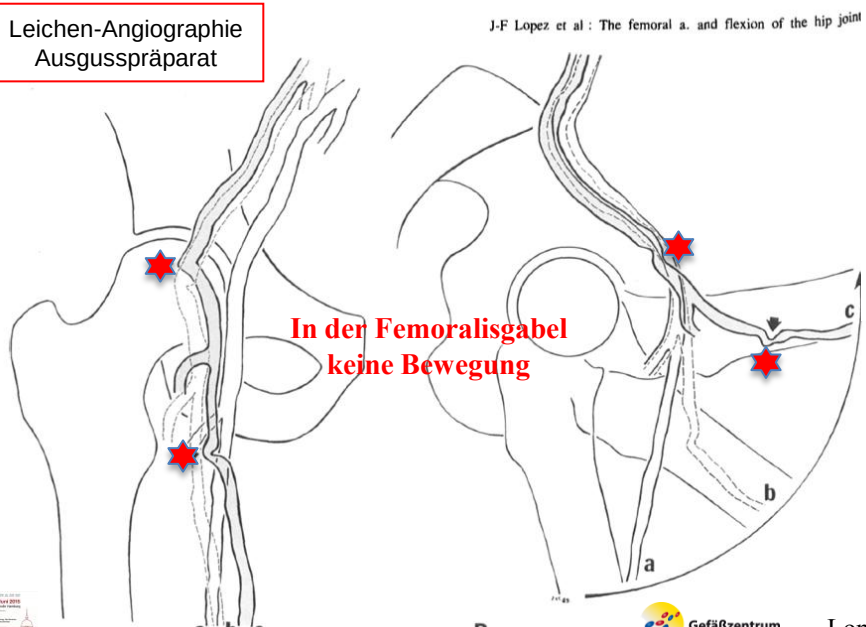
MRT
Gesunde Probanden

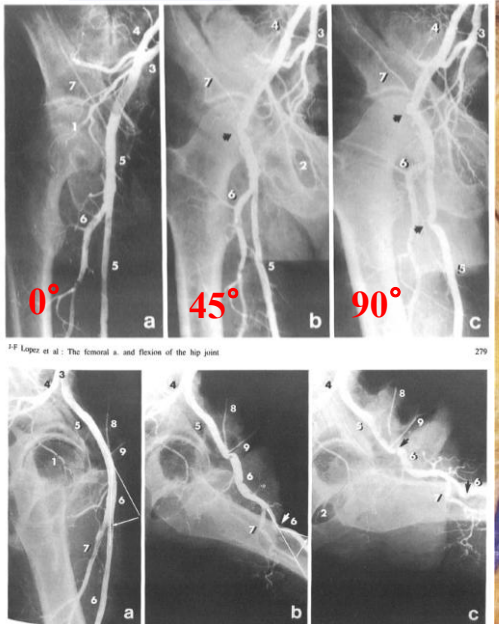


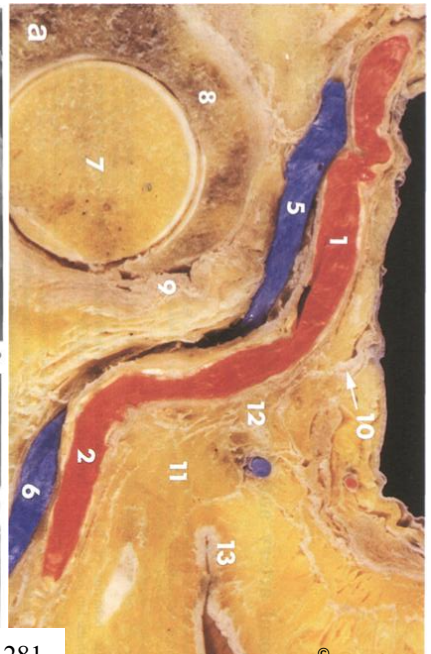


Choi G et al. J Endovasc Ther 2009;16:531–538.

Leichen-Angiographie
Ausgusspräparat







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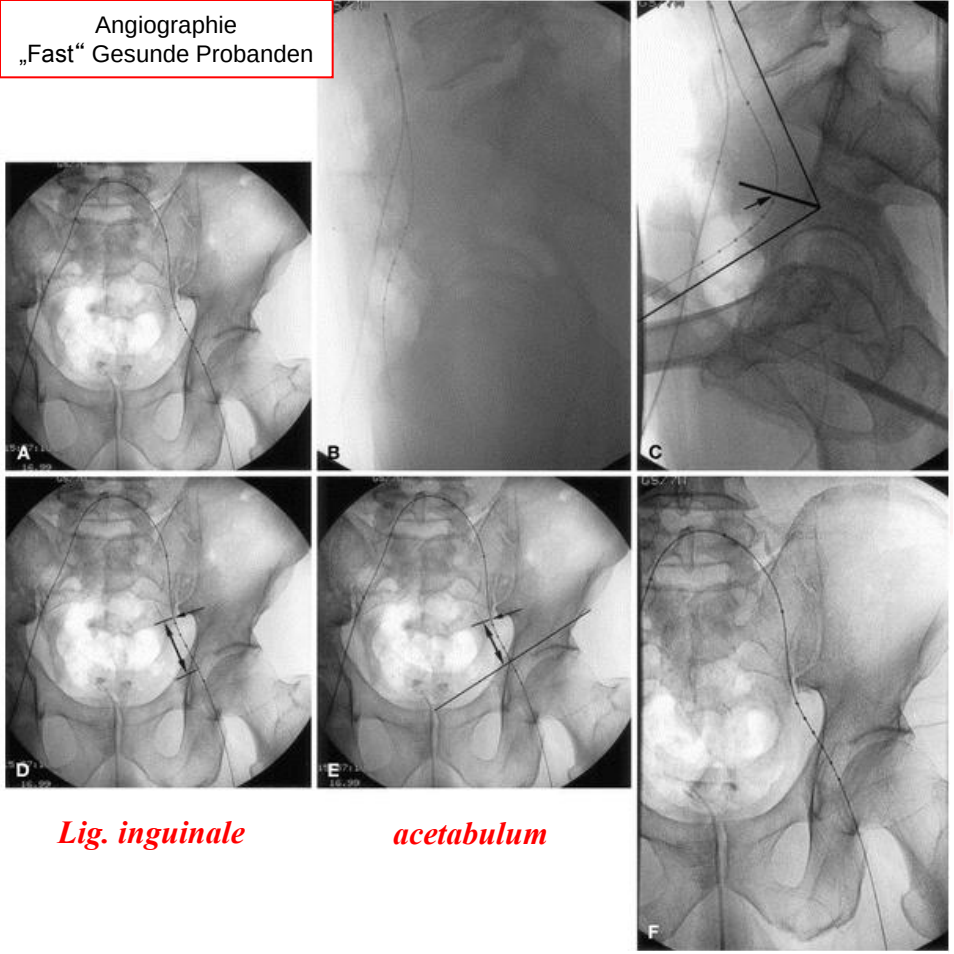
Angiographie
„Fast“ Gesunde Probanden



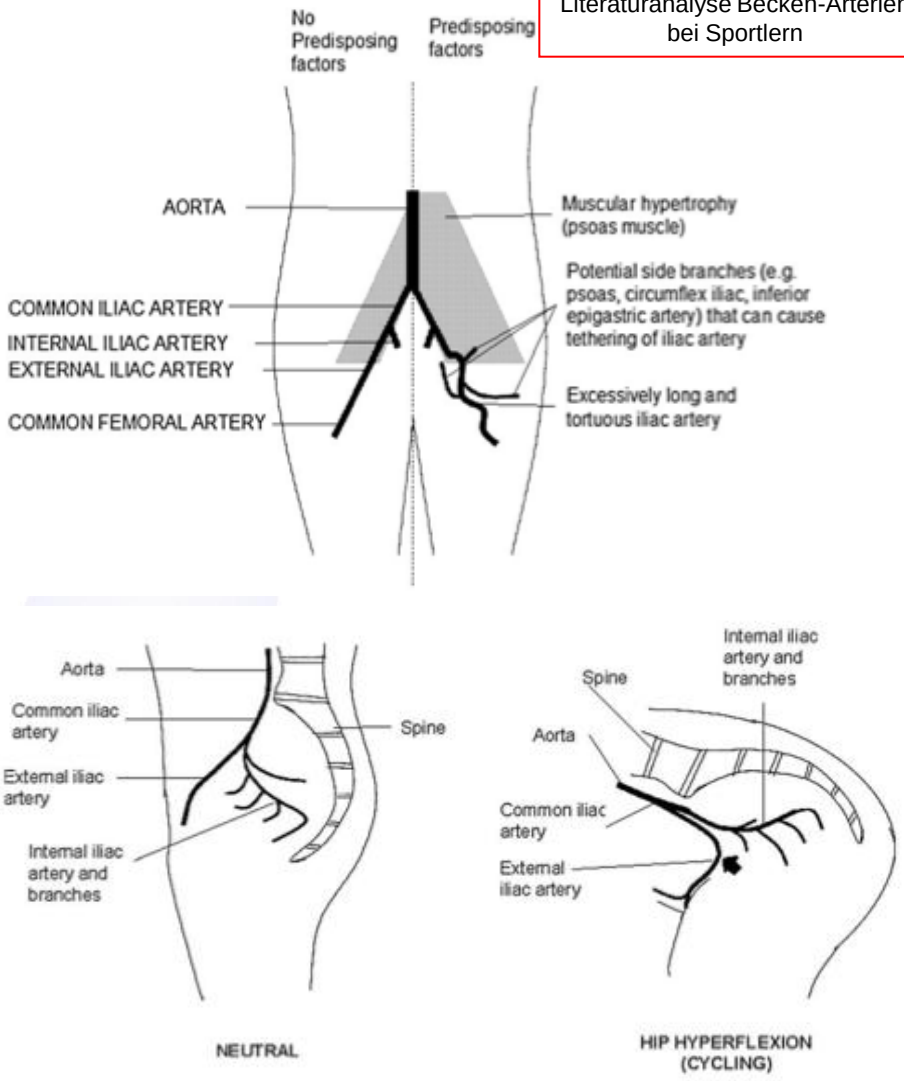
Lig. inguinale *acetabulum*

Fig. 1. **A–F** Radiographic images of a 61-year-old man undergoing femoral artery catheterization for transcatheter arterial chemoembolization of hepatocelluar carcinoma. The arterial folding point was determined on the left side. **A** After right femoral access, a marked catheter was advanced into the contralateral proximal superficial femoral artery, and an AP-Neu image was taken. **B** The Lat-Neu and **C** Lat-Fl images were compared and a hinge point was determined. On the Lat-Fl image, lines parallel to the marked catheter were drawn above and below the hinge point, and the angle formed by the two lines was bisected. The arterial folding point was determined as the point where the line bisecting the angle met the marked catheter (arrow). **D, E**. On the AP-Neu image, the folding point (arrow) was identified and the distances from the folding point to the acetabular roof (double-headed arrow) and the inguinal ligament were measured. **F** Post-examination radiography shows about 1 mm advance of the tip of the marked catheter.

Park SI et al. Cardiovasc Interv Radiol 2005;28(2):173-177

Folding point: 42.8 ±28.6 mm cranial to acetabular roof
35.1 ±30.1 mm cranial to inguinal ligament
older age: more cranial

Literaturanalyse Becken-Arterien
bei Sportlern



Lim CS et al. Eur J Vasc Endovasc Surg (2009) 38, 180e186

A. iliaca compression in cyclists (review)
tethering by psoas artery branch and fibrous tissue
hypertrophy of psoas muscle
= endofibrosis

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Iliaco-femorale Arterien

Daten zur OP

Literatur	Zeit	n: P/L	CI/CLI %	Hybrid	TcSc OP-Time	Kompl ma/min	FU	Pat	Freedom From	Survival
Kang 2008	2002-2005	58/65	68/32	57%	100% 3.0±0.8 h	5%/9% Mort.: 0%	27 Mo (1-58)	***1° Pateny*** 1a: 93 % 5a: 91 % ***Ass. Patency*** 1a: 100% 5a. 100%	***Reintervention:*** 1a: 82 % 5a: 78 % ***Amputation:*** 100 %	1a: 89% 5a: 70%
Ballota 2010	2000-2007	117/121	60.3/39.7	69%	100% 1.3±0.7 h	0%/6.6% Mort.: 0%	4.2 a (0.1-8.8)	***1° Patency*** 1a: 100% 3a: 99% 5a: 96% 7a: 96% ***Ass 1° P*** 1-7a: 100%	***Reintervention:*** 1a:100% 3a: 96% 5a: 82% 7a: 79% ***Amputation:*** 7a: 100%	1a: 100% 3a: 97% 5a: 89% 7a: 80%
Desai 2010		81/87	52/48	29%	100%	5%/9% Mort.: 1%	23 Mo (1-144)	1° Pat 3a: 93% 1° Ass. Pat.: 3a: 99%	***Reintervenion:*** 2a: 79% 6a: 62% ***Amputation:*** 6a: 87% (ESRD)	?

∑: ....safe, durable effective, still ***gold standard***.....
....standard for comparison with emerging endovascular therapies...

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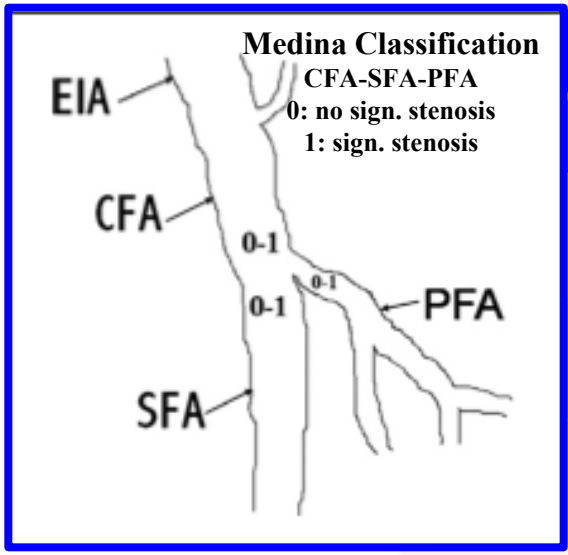
Iliaco-femorale Arterien

Daten zur PTA

Literatur	Zeit	n: P/L	CI/CLI %	Stent Bo: SX/BX	TcSc	Kompl. ma/min	FU	Pat	Stent ≠	Freedom From %	
Dick (2006)		55/55 APF	69/31	Ø	85%	Ø1 minor	13 Mo	1a: cum pat: 71%, 3a: cum pat: 49%	Ø stent	TLR 1a: 61	
Donas (2010)	2005-2008	15 nur APF (2x post-op)	0/100	20% sx	100%	Ø	24 Mo	3a: cum pat: 80% 3a: limb S: 93.3%			
Azema (2011)	2006-2008	36 /40 CFA±Äste Bypass-Anastom	70/30	100% (n:43) 38/5	100%	MM-rate 5%	22 Mo			TLR: 85 TER: 80	
Paris (2011)	1994-2009	26 CFA	61,5/38.5	100%				Klin: 100% CLI: 1° Klein: 70%	0% 2x through Stent acess	?	
Baumann (20				n: 28 CI:24% CLI: 40% 13/14%	98%	0%	16 Mo	1a: 1° Klin Succ CI CLI 68%, 40% 2a: 1° Klin Succ CI CLI 52% 0% 2a: LS CI CLI 100% 94%	?	CI *1a:* TLR: 83 TER: 76 *2a* TLR: 72 TER: 72	CLI *1a:* TLR: 54 TER: 65 *2a* TLR: 27 TER: 54
Bonvini (2011)	1996-2007	321/360 (39 bilateral) CFA und Äste	77.9/22.1	n:133 (36.9%) n: 144 Stents in CFA	92.8%	1.4/5.0% proced-rel	10.3±5. 4 Mo	1a: 82.4% 5a: 50%	0%	1a: TLR: 80.1% 5a: TLR: 60%	
Bonvini (2013)	1996-2007 bereingtes	94/97 CFA±Äs	80,4/19,6	n: 37 (38.1%)	91,8%	7,2%	10,4±8. 1 Mo	1a: 90.5% 5a: 65.0%	0%	1a: TLR 85.9% 5a: TLR 75.0%	

∑: ….safe, effective, ***not durable***, still **no (gold) standard**…..
….comparison with established open surgery still lacking

Endovascular Treatment of Common Femoral Artery Disease Medium-Term Outcomes of 360 Consecutive Procedures



Benefit of *Stents* in CFA

Endpoint	Variable	OR	95% CI	p
Proc. Failure (> 30% residualstenosis)	**Stent**	0.20	0.06-0.69	0.005
Restenosis (>50% after 1a/FDS)	**Stent**	0.53	0.29-0.96	0.046
TLR Clinically driven 1a	**Stent**	0.49	0.26-0.91	0.021

This retrospective analysis of 360 consecutive CFA interventions performed in 321 patients showed that the endovascular approach with balloon angioplasty and provisional stenting is associated with ***a high success rate, low rate of in-hospital complications, and acceptable restenosis rate at medium-term follow-up.***
Our data suggest that the ***endovascular approach of CFA, even for complex lesions, may be a valid alternative to surgery***.

Bonvini F et al. J Am Coll Cardiol 2011;58:792–8

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Iliaco-femorale Arterien

Bisher galt die ***AFC*** als ***Hohheitsgebiet*** der offenen Operation (TEA ± Patch)

Erst jetzt beginnt sich das Interesse der Kathetertherapeuten auch auf die Leistenregion zu fokussieren

Die bisher publizierten Ergebnisse zur ***PTA mit oder ohne Stenting*** sind gut aber denen der ***offenen Operation*** noch immer unterlegen (noch keine Vergleichsstudien)

Das Segment der ***AFC*** und ihrer Aufzweigung unterliegt deutlich ***geringeren mechanischen Belastungen*** „von innen“ durch Bewegung der Hüfte als die Beckenarterien (AIE) und die proximale SFA

Entsprechend gering ist hier die bisher beschriebene Rate der ***Stentfrakturen***

Zu berücksichtigen ist bei der ***AFC*** aber die ***Belastung des Gefäßes „von aussen“:***

- *Zugangsregion für jegliche Art von Katheterintervention*

Lokal implantierte Stents und Kunststoff-Patches können hier Probleme beim ***Gefäßzugang*** mit erheblichen Komplikationen bedeuten („stent jailed CFA“)

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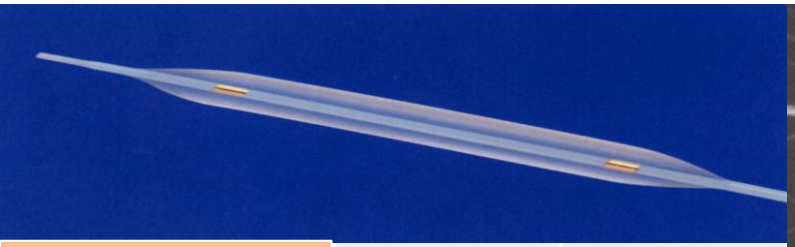

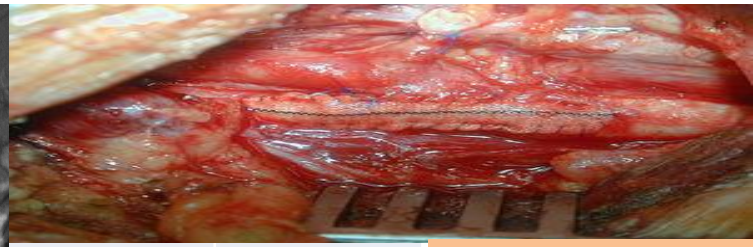

con	pro		pro	con
	+++	Invasivität		+++
+		Plaque-Morph.	+++	
Ø	Ø	Gelenknähe	Ø	Ø
+++		Patency	+++	
	++	Wiederholbarkeit		++
	+++	Infekt / Kompl.		+++
	+++	Kosten (akut)		+++
+++		Kosten (chron)	+++	
(Stent ?)	++	Leiste als Zugang	++	+
	++	Akzeptanz (Pat)		
	++	***Akzeptanz (Arzt)***	++	
	+++	Forschung Entwicklung	???	???

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Society for Vascular Surgery practice guidelines for atherosclerotic occlusive disease of the lower extremities: Management of asymptomatic disease and claudication

J Vasc Surg 2015;-:1-40.

Surgical and endovascular therapy (EVT) are likely to be similar in efficacy overall, although the quality of supporting evidence comparing the two is poor and the likelihood of durable clinical success different, especially for extensive disease, more distal disease, and disease involving ***the common or deep femoral arteries where surgery is usually preferred.*** Specific factors predicting treatment success should be carefully considered in each individual before determining the optimal strategy.

CFA interventions. Limited data are available to support the use of interventional therapy in occlusive disease of the CFAs, but several single-center experiences have been published, presenting a technical success rate of nearly 90% and 1-year primary patency rate of 75%. Information on longer-term patency is limited, and no information is available regarding stent stability in this area over even this short period of time. Given the limited morbidity and risk entailed with femoral endarterectomy, ***the use of interventions in this vessel for the present time should be limited*** to those with a prohibitive risk for open surgical therapy related to local or systemic risk factors.

5.9. In all patients undergoing revascularization for AIOD, we recommend assessing the CFA. If hemodynamically significant CFA disease is present, ***we recommend surgical therapy (endarterectomy) as first-line treatment***. **1 B**

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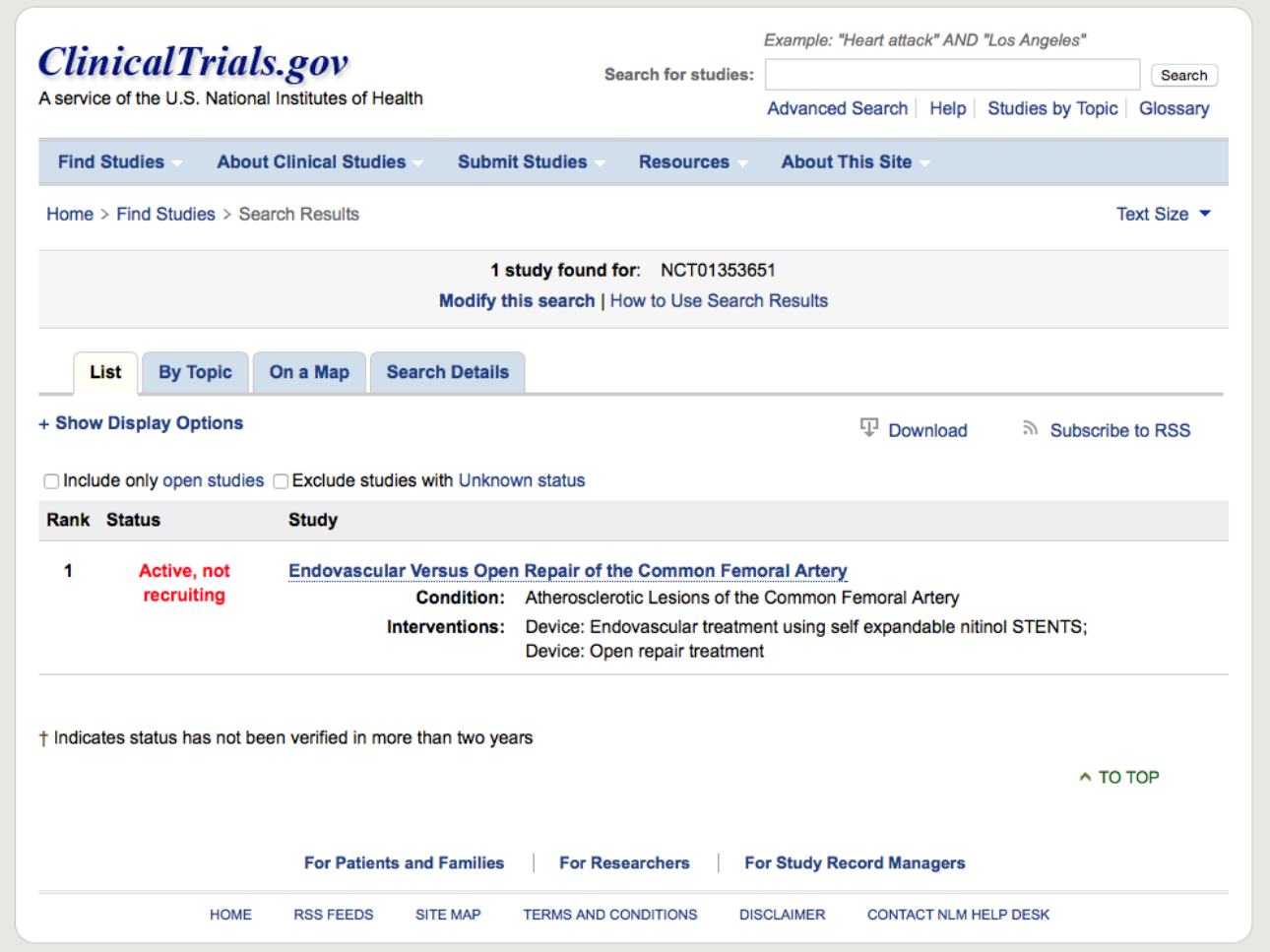

Daten erst Ende 2015

Even though the indication for endovascular therapy has been enlarged, open repair of common femoral artery is still considered as the treatment of choice. A recent pilot study showed that endovascular repair of the CFA seems to be a safe technique of revascularization with acceptable initial results at 12 months (Azema et al, Eur J Vasc Endovasc Surg, 2011, in press).

TECCO, a French randomized and controlled trial, has been set up to compare open and endovascular procedures for the treatment of CFA atherosclerotic lesions.

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