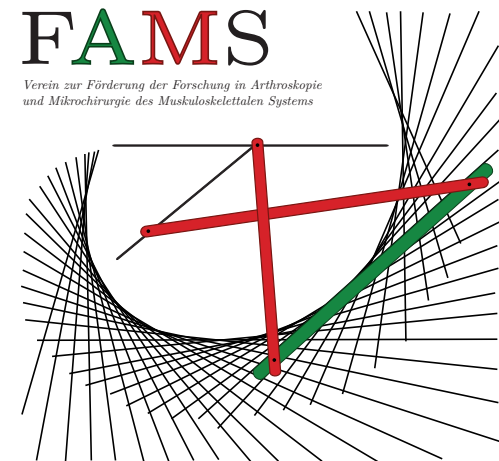


# Welcome

## The femoral footprint of the ACL and its bony landmarks

Landeskrlinikum   
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# Financial disclosure

- Both studies were financed by the Medical University of Vienna
- There have been no financial contributions from third parties
- No team member has received grants or financial support from other parties concerning this study
- No conflict of interest

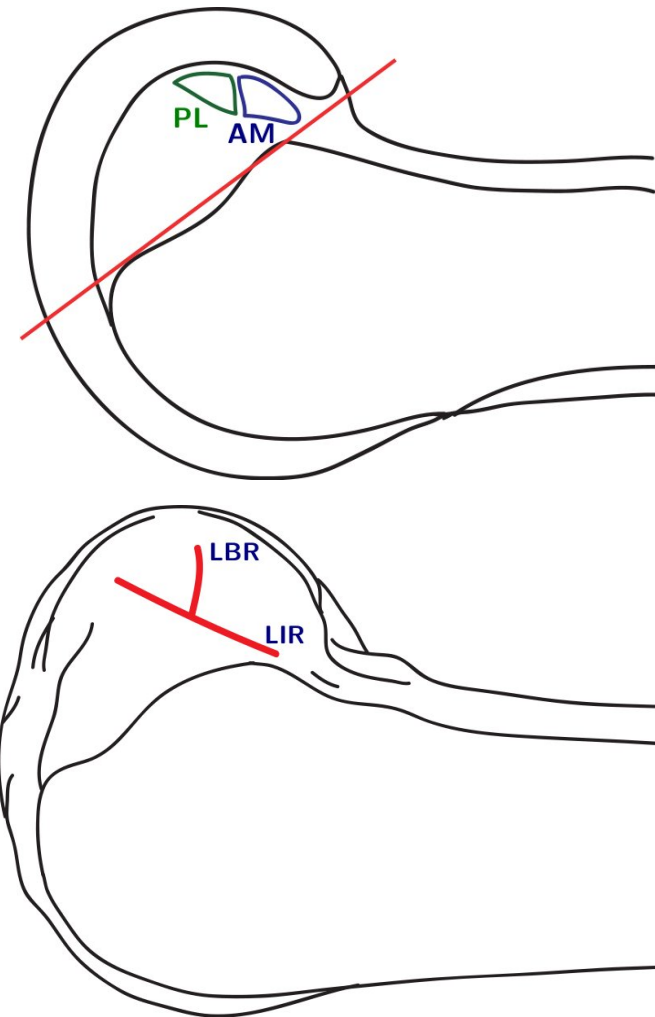
# Femoral origin of the ACL

## Variability!

- Location 12:30 – 03:10 o'clock
- Different shapes
  - circle, segment of circle, elliptic, triangle, ...
- Different sizes
  - 8 – 19 mm x 5 – 14.5 mm
- Two bony landmarks

# Bony landmarks

- Resident's ridge  
(lateral intercondylar  
ridge, LIR)
  - anterior limit
- Lateral bifurcate ridge  
(LBR)
  - separates AM and PL  
attachment
  - Ferreti et al. (2007)



# LIR & LBR

Study	n	LIR %		LBR %		Rem.
		+	-	+	-	
Ferreti (2007)	7	--	--	85.71	14.29	fetal
	6	100	0	81.67	18.33	arthr.
	16	100	0	81.25	18.75	cadavers

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# The study

- **Existence of LBR?**
- Two parts (primary A, follow up B)
  - A: n=166; museum collection / 4 ossuaries
  - B: n= 69; formalin-fixated human cadavers

# Methods

- Femoral origin photographed (std. cond.)
  - Comm. avbl. digital SLR camera
  - Spcm. tilted accordingly
- Pictures evaluated:
  - LBR, LIR identifiable
  - Area, height, width (base: Blumensaat's line)
  - Shape



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Ziegler (2011)	26	--	--	92.31	7.69	
A	166	97.59	2.41	<b>24.70</b>	<b>75.30</b>	
B	69	85.30	14.70	<b>13.20</b>	<b>86.80</b>	1 excl.

# Measurements

Study	mm <sup>2</sup>	
Ferreti (2007)	196.8 ± 23.1	3D
Siebold (2008)	83 ± 19	w/o synov. membr.
Harner (1999)	113 ± 27	w synov. Membr.
Dargel (2009)	119.5 ± 29.8	left
	122.3 ± 27.2	right
A	127.21 ± 32.54	
B	119.58 ± 34.84	

Study	length	width	
Siebold (2008)	15 ± 3	8 ± 2	
Muneta (1997)	16 ± 2.8	8.3 ± 2.8	
Ferreti (2007)	17.2 ± 1.2	9.9 ± 0.8	
Colombet (2006)	18.3 ± 2.3	10.3 ± 2.7	
A	16.98 ± 2.67	12.6 ± 2.1	Blumensaat
B	12.44 ± 2.81	14.51 ± 2.09	Blumensaat

# Other findings: shape (A)

Shape	%
Segment of ellipsis	31.93
Elliptic	15.06
Segment of circle	15.06
Circle-shaped	6.02
Kidney-shaped	11.45
Trapezoid	5.42
Other	15.06

# Limitations

- Lab setting
- 2D projection
- Still image
- Age of population

# Conclusions

- The origin site of the ACL is **highly variable** concerning size, measurements und shape
- The **LIR** is a reliable landmark
- The value of the **LBR** could *not* be confirmed
- **Further research:**
  - Ethnic background
  - Exposure
  - Age
  - Arthroscopy

# Thank you for your attention!

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*Verein zur Förderung der Forschung in Arthroskopie  
und Mikrochirurgie des Muskuloskeletalen Systems*

