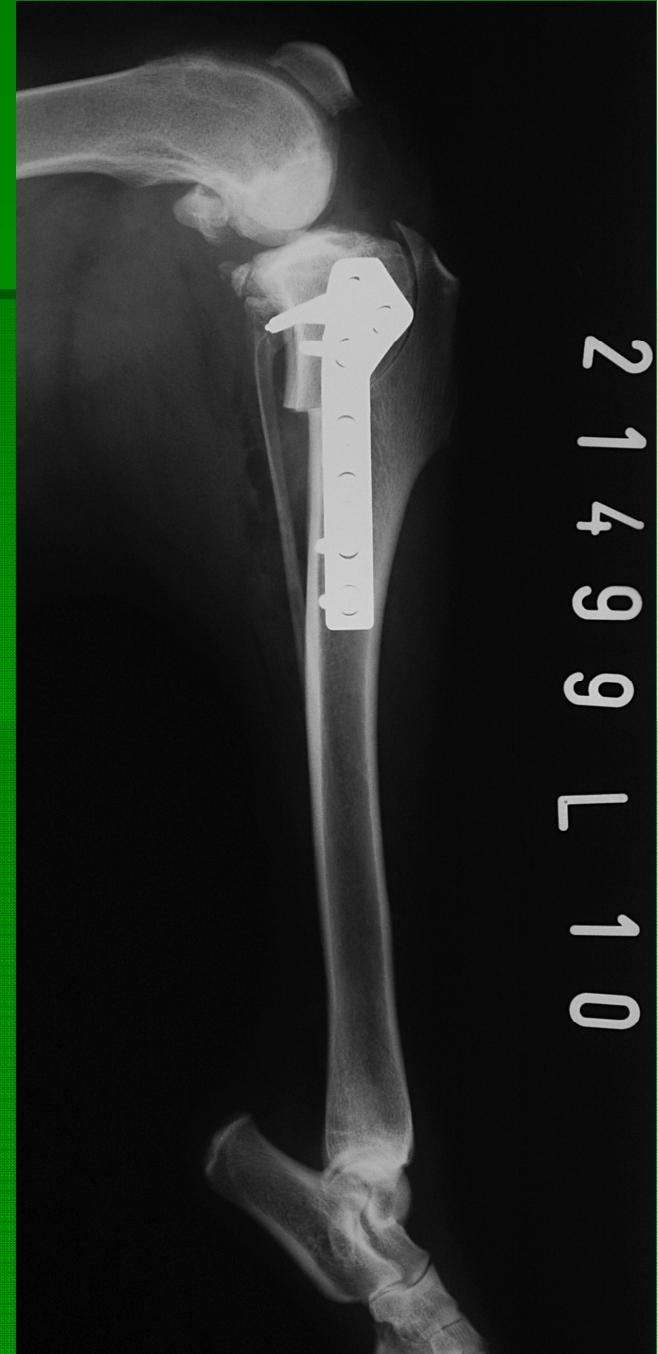


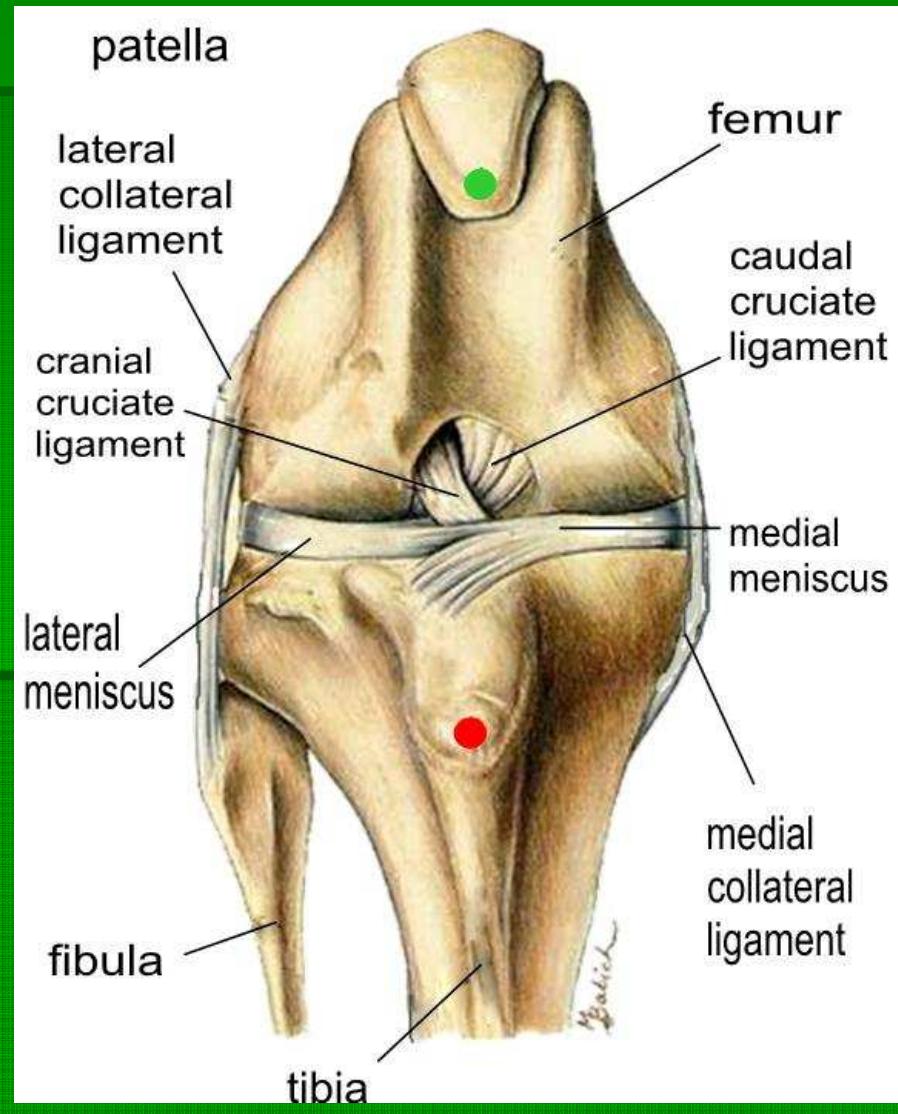
# TPLO

Tibia Plato Leveling Osteotomy

Andras Kizman DVM



# Anatomy of the stifle joint



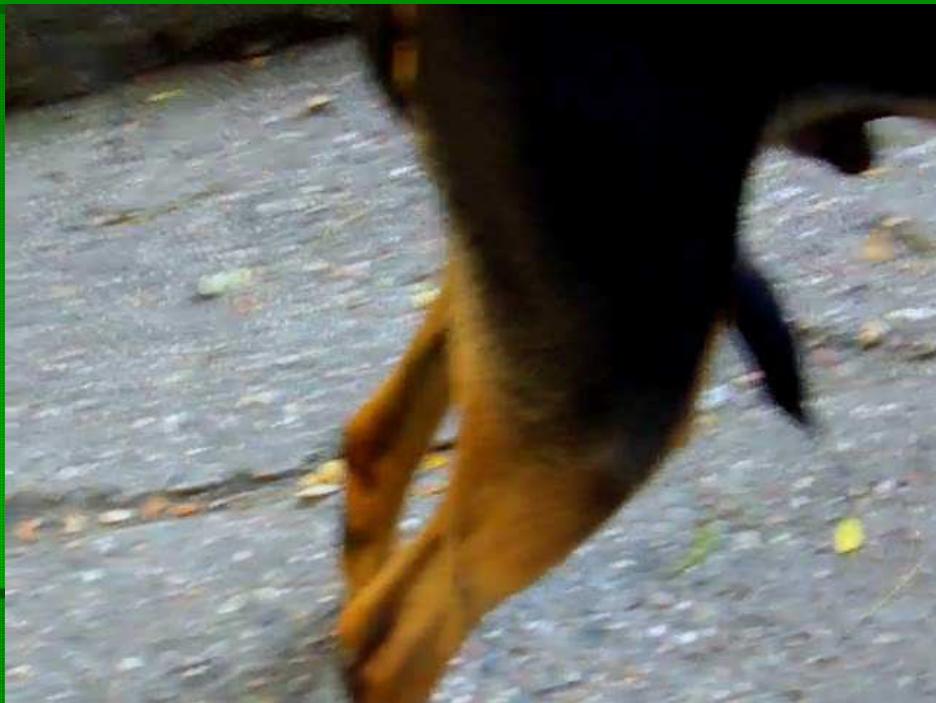
# **Cranial cruciate ligament rupture**

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- One of the most common orthopedic problem
- There are lots of technics to repair
- TPLO is (one of) the best

# Clinical signs of CCL rupture

- lameness
- joint effusion
- medial buttress
- pain in extension
- tibial compression test, drawer motion
- arthrosis



# Radiographic signs

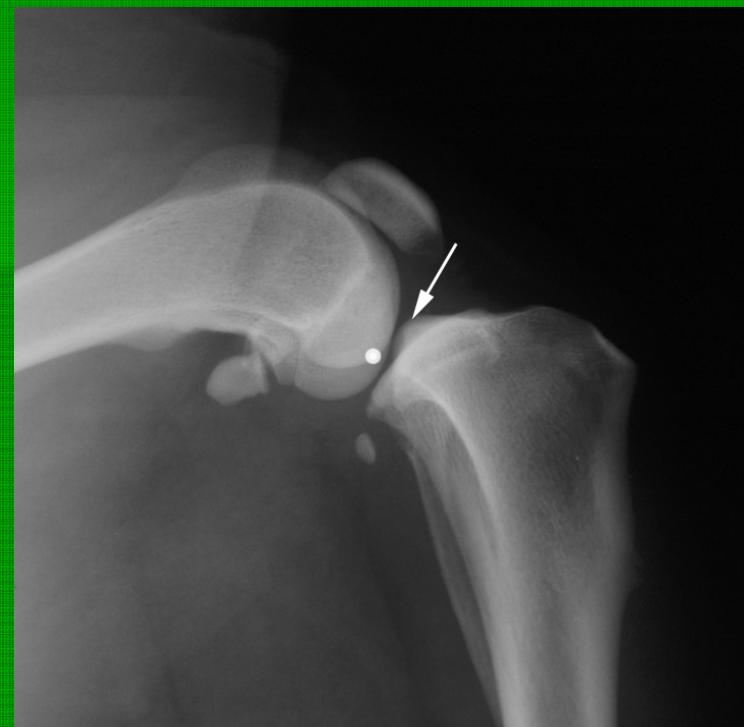
## Osteophytes

- distal patella
- supratroclear region
- tibial and femoral margins

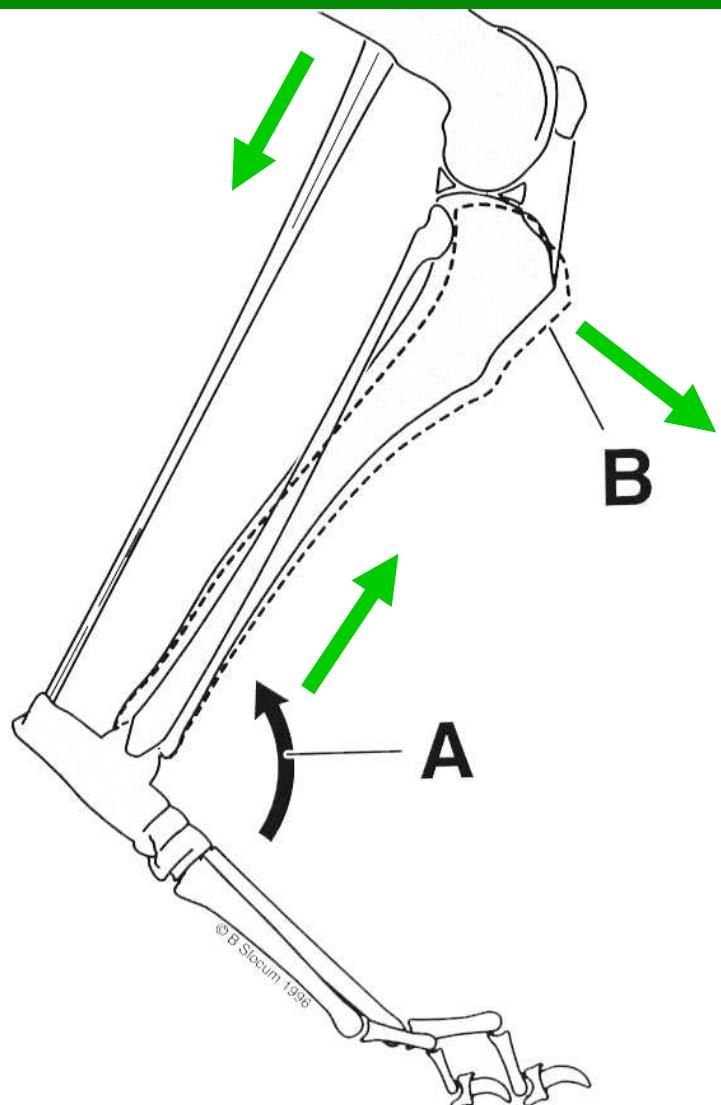


# Radiographic signs

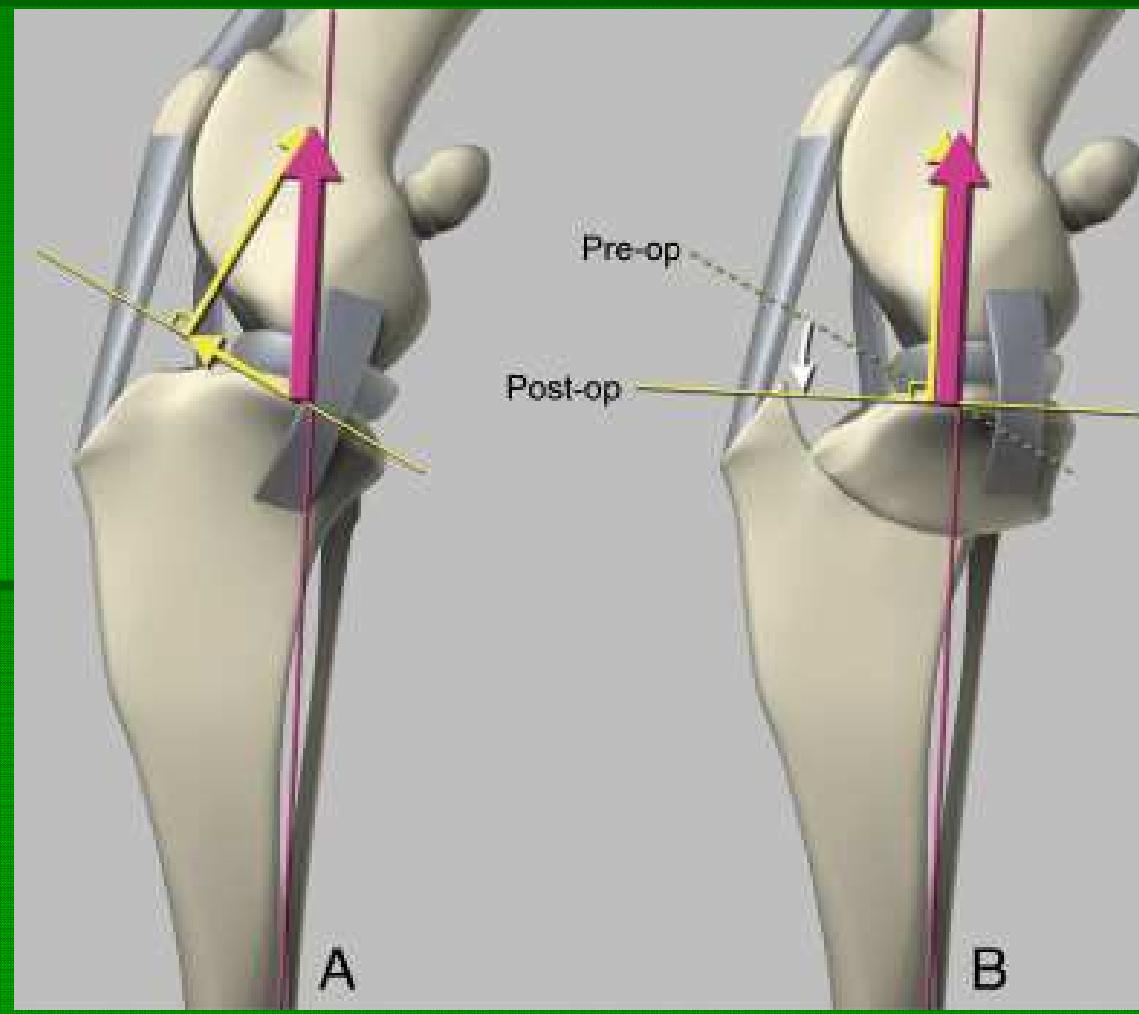
- fat pad sign
- cranial drawer
- avulsion (usually in young animals)



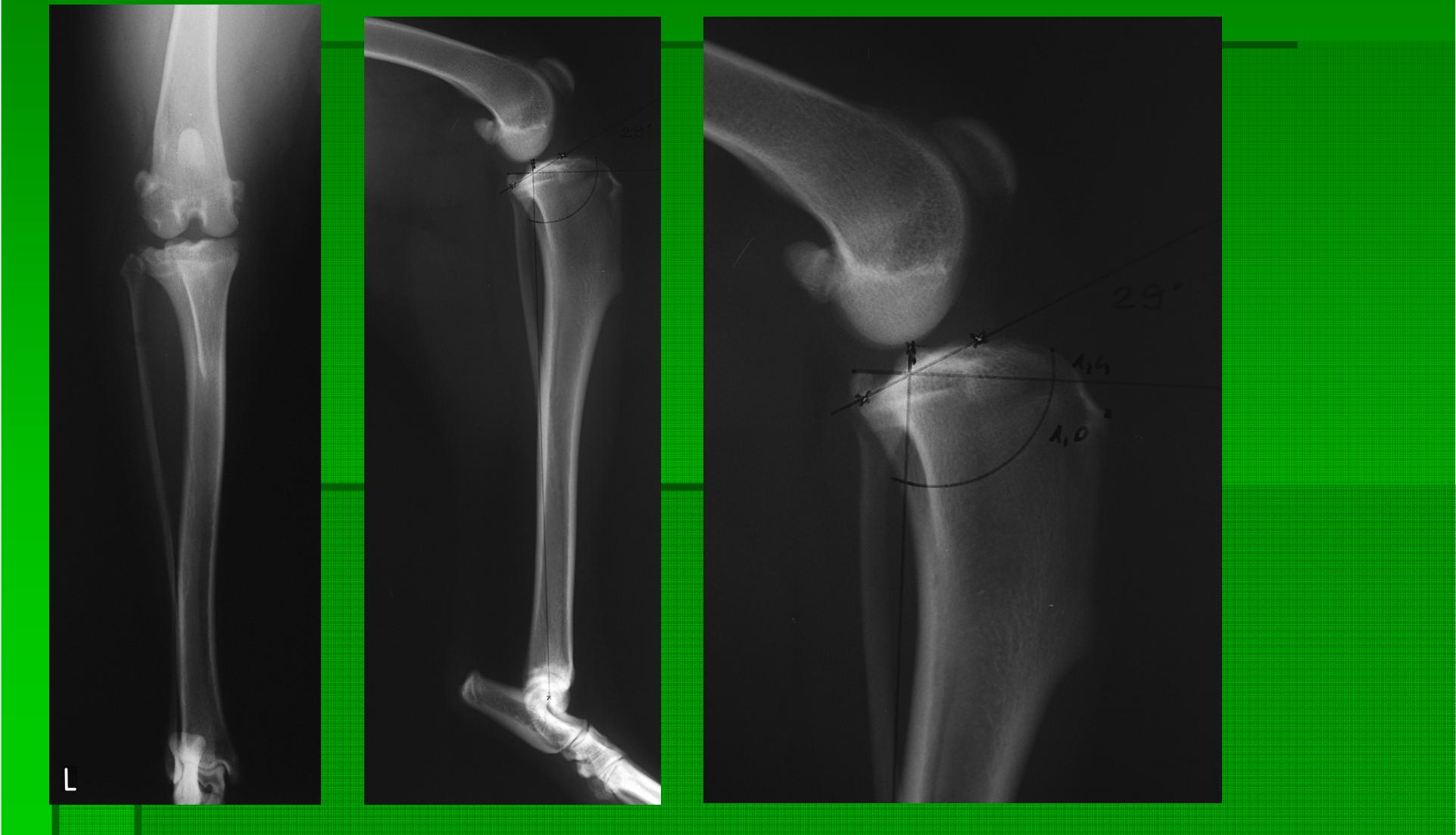
# What is cranial tibial thrust?



# How does tplo stabilize the stifle joint



# Pre-operative planning



# Rotation chart

**Preoperative Tibial Plateau Angle (TPA)**

	15°	16°	17°	18°	19°	20°	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°	35°	36°	37°	38°	39°	40°	
	Rotation (mm) — Provides Resultant 5° TPA																										
Saw Radius	12 mm	2.0	2.2	2.4	2.6	2.9	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.5	4.7	4.9	5.1	5.3	5.5	5.7	5.9	6.1	6.3	6.4	6.6	6.8	7.0
15 mm	2.6	2.8	3.1	3.3	3.6	3.8	4.1	4.3	4.6	4.9	5.1	5.4	5.6	5.9	6.1	6.4	6.6	6.9	7.1	7.4	7.6	7.9	8.1	8.4	8.6	8.8	
18 mm	3.1	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.5	5.8	6.1	6.5	6.8	7.1	7.4	7.7	8.0	8.3	8.6	8.9	9.2	9.5	9.8	10.1	10.3	10.6	
21 mm	3.6	4.0	4.3	4.7	5.0	5.4	5.8	6.1	6.5	6.8	7.2	7.5	7.9	8.3	8.6	9.0	9.3	9.7	10.0	10.4	10.7	11.1	11.4	11.8	12.1	12.4	
24 mm	4.1	4.5	5.0	5.4	5.8	6.2	6.6	7.0	7.4	7.8	8.2	8.6	9.0	9.5	9.9	10.3	10.7	11.1	11.5	11.9	12.3	12.7	13.1	13.5	13.9	14.3	
27 mm	4.7	5.1	5.6	6.0	6.5	7.0	7.4	7.9	8.4	8.8	9.3	9.7	10.2	10.6	11.1	11.6	12.0	12.5	12.9	13.4	13.8	14.3	14.7	15.2	15.6	16.1	
30 mm	5.2	5.7	6.2	6.7	7.2	7.8	8.3	8.8	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.9	13.4	13.9	14.4	14.9	15.4	15.9	16.4	16.9	17.4	17.9	

# **First step in surgery: Inspect the joint**

---

- Arthroscopy or medial (mikro)arthrotomy
- Remove the remnant of the ruptured ligament
- Check the lateral and medial meniscus (remove the injured part)
- video

# Inspect the joint (cleaning up)

- video

# **Surgical technic**

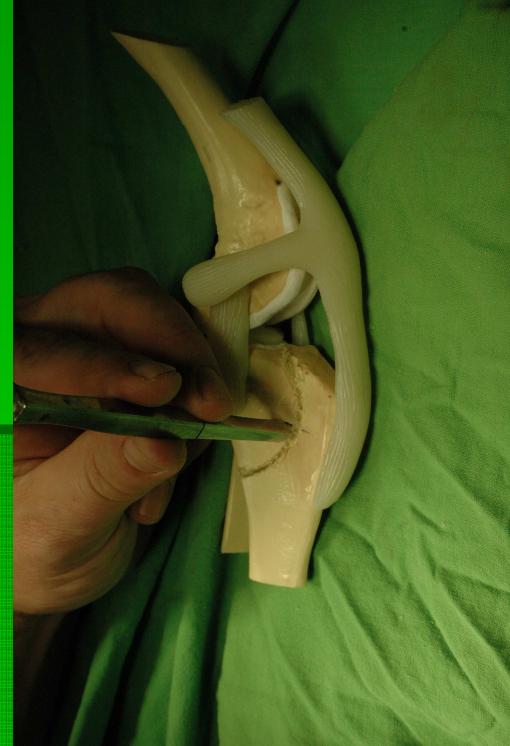
# Surgical technic

- Proximal medial tibial approach
- Elevate the caudal belly of the sartorius muscle
- Mark the osteotomy line
- Osteotomy to halfway



# Surgical technic

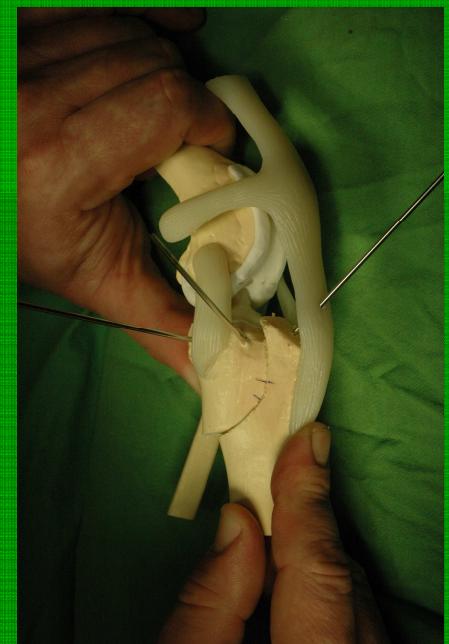
- Mark the distance of rotation



Preoperative Tibial Plateau Angle (TPA)																	
	15°	16°	17°	18°	19°	20°	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°
Rotation (mm) — Provides Resultant 5° TPA																	
12 mm	2.0	2.2	2.4	2.6	2.9	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.5	4.7	4.9	5.1	5.3
15 mm	2.6	2.8	3.1	3.3	3.6	3.8	4.1	4.3	4.6	4.9	5.1	5.4	5.6	5.9	6.1	6.4	6.6
18 mm	3.1	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.5	5.8	6.1	6.5	6.8	7.1	7.4	7.7	8.0
21 mm	3.6	4.0	4.3	4.7	5.0	5.4	5.8	6.1	6.5	6.8	7.2	7.5	7.9	8.3	8.6	9.0	9.3
24 mm	4.1	4.5	5.0	5.4	5.8	6.2	6.6	7.0	7.4	7.8	8.2	8.6	9.0	9.5	9.9	10.3	10.7
27 mm	4.7	5.1	5.6	6.0	6.5	7.0	7.4	7.9	8.4	8.8	9.3	9.7	10.2	10.6	11.1	11.6	12.0
30 mm	5.2	5.7	6.2	6.7	7.2	7.8	8.3	8.8	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.9	13.4

# Surgical technic

- Complete the osteotomy
- Insert a thick pin for rotation
- Fix with a thin K-wire
- Check the stability with tibia compression test



# Surgical technic

- Remove the rotation pin
- Contour the plate
- Insert the screws
- Close the wound



# Controll radiograph



# Thank You!

