

# TROCHLEOPLASTY

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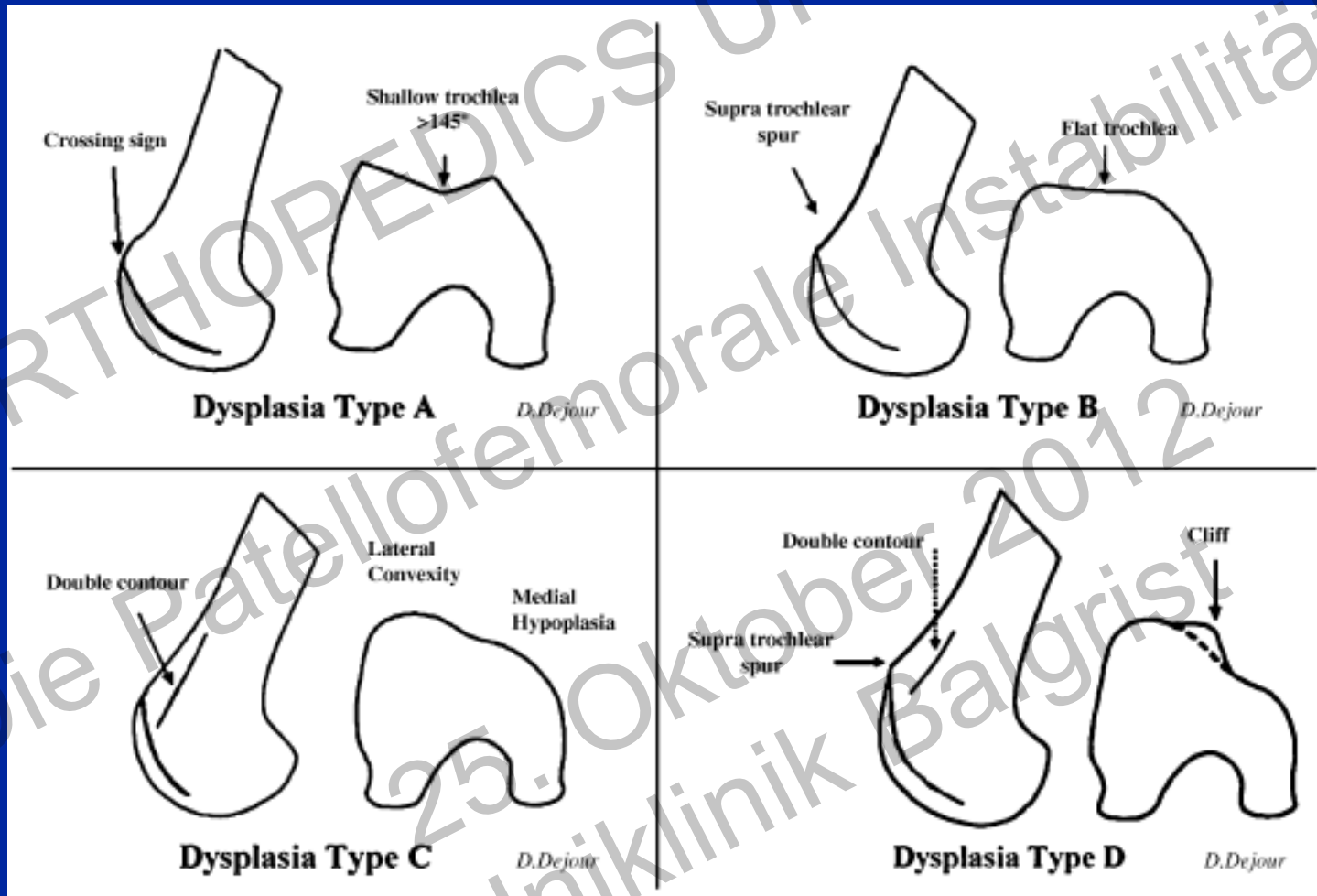
# TROCHLEAR DYSPLASIA

**Present in 85% patients  
with recurrent patellar dislocation**

Dejour H. Rev Chir Othop Reparatrice Appar Mot 76 (1):45-54, 1990



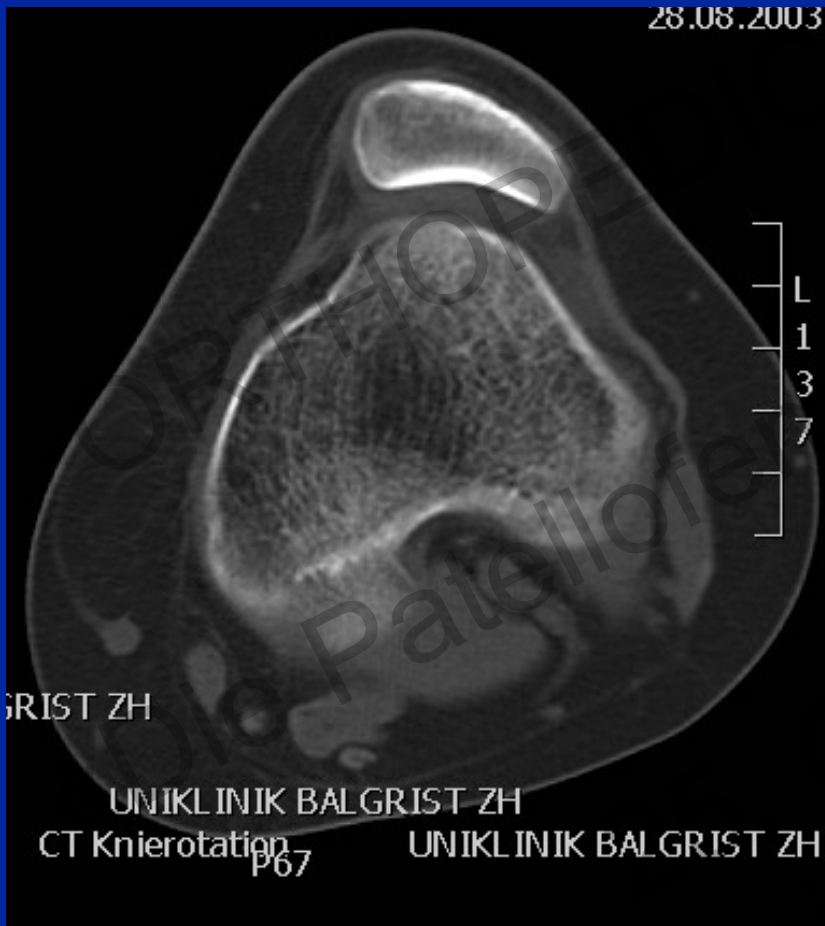
# CLASSIFICATION OF DYSPLASIA\*



\*Dejour D. Méd Hyg 56:1466, 1998

\*Dejour D. Sports Med Arthrosc 15:39, 2007

28.08.2003



# SURGICAL TREATMENT

Correction of anatomical anomaly:

## TROCHLEOPLASTY

ORTHOPEDICS UPDATE  
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25. Oktober 2012  
Uniklinik Balgrist



# TECHNIQUES

- Elevation of the lateral trochlea: Albee
- Sulcus deepening: Masse, Dejour, Bereiter
- Recession type: Goutallier, Beaufils

Albee FH. Med Rec 88:257, 1915

Masse Y. Rev Chir Orthop Reparatrice Appar Mot 64:3, 1978

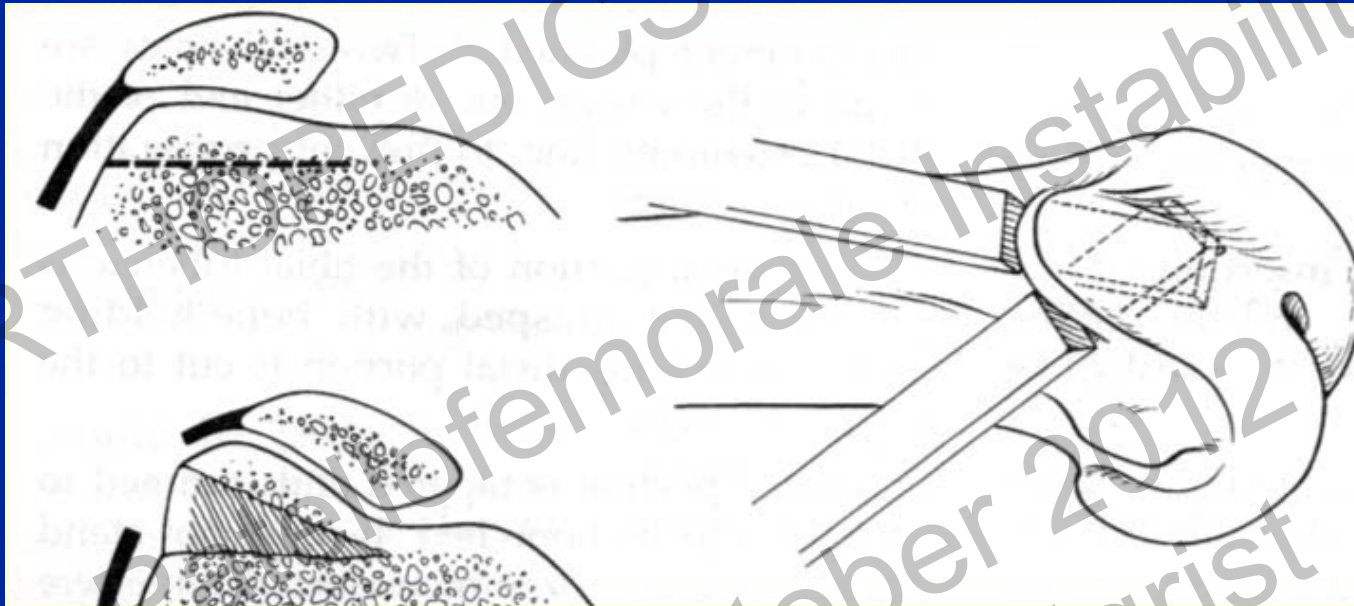
Dejour H. Rev Chir Orthop Reparatrice Appar Mot 76:45, 1990

Bereiter H. Arthroscopie 7:281, 1994

Goutallier D. Rev Chir Orthop Reparatrice Appar Mot 88:678, 2002

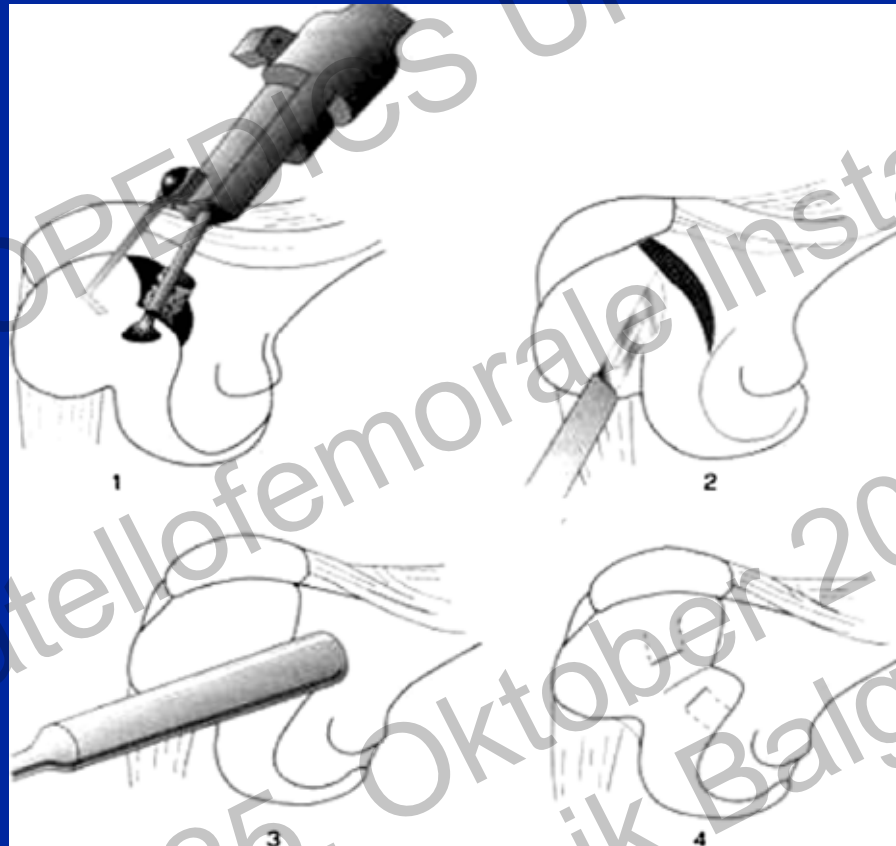


# ELEVATION OF THE LATERAL TROCHLEA



Albee FH. Med Rec 88:257,1915

# SULCUS DEEPENING



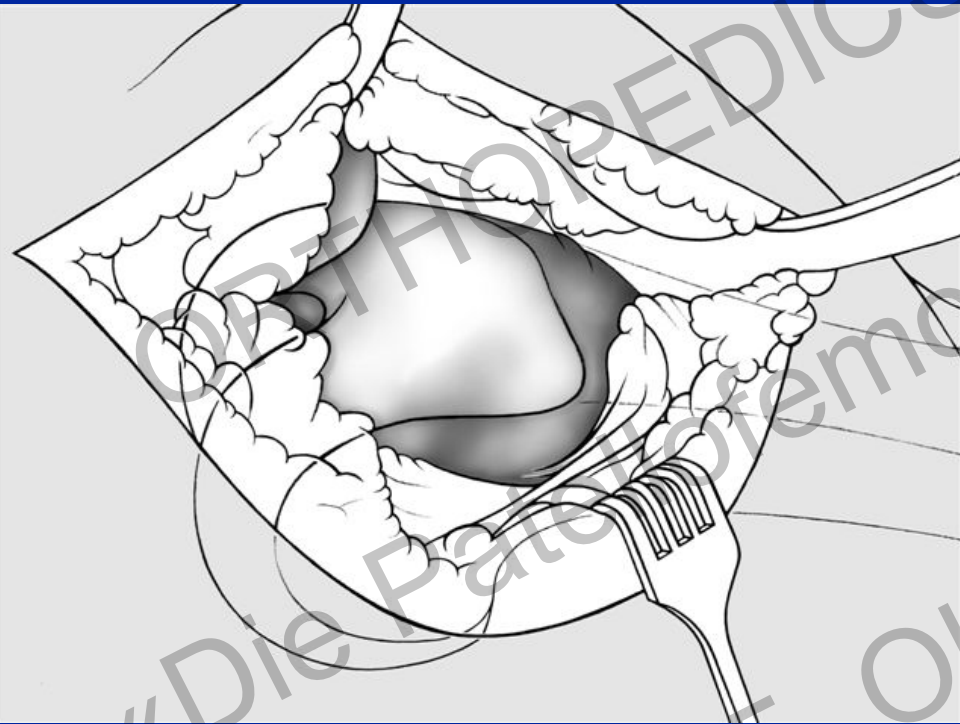
Masse Y. Rev Chir Orthop Reparatrice Appar Mot 64:3, 1978

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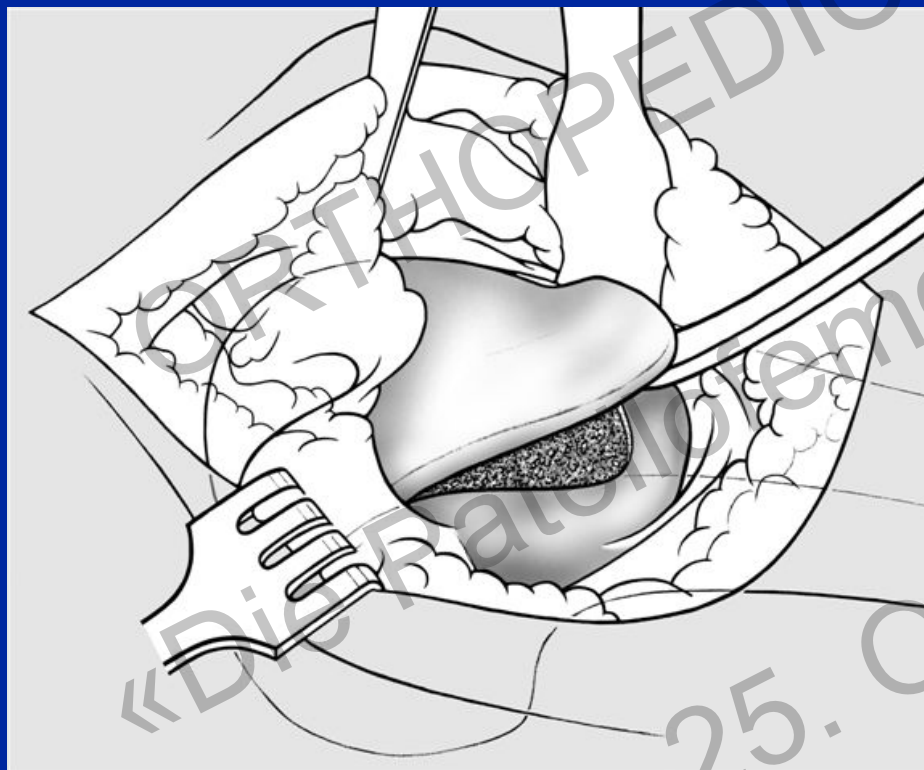
# SULCUS-DEEPPENING TROCHLEOPLASTY



# SULCUS-DEEPENING TROCHLEOPLASTY

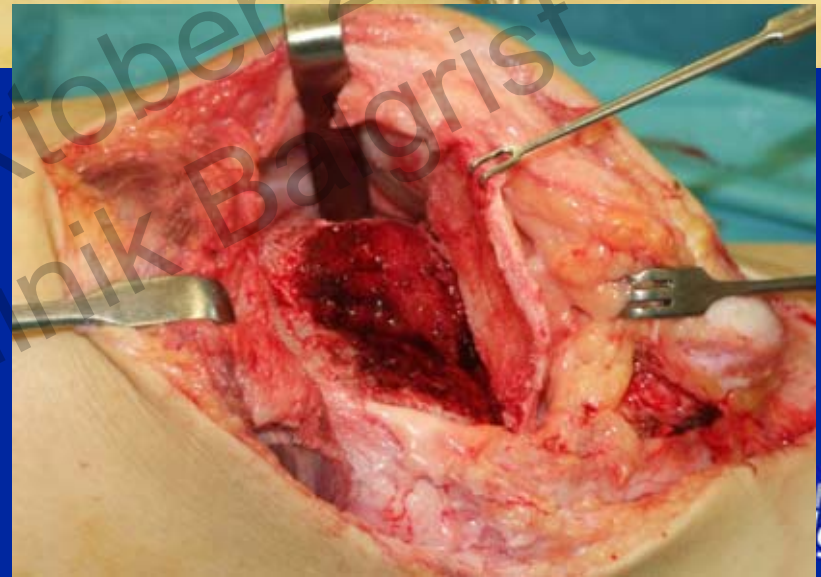
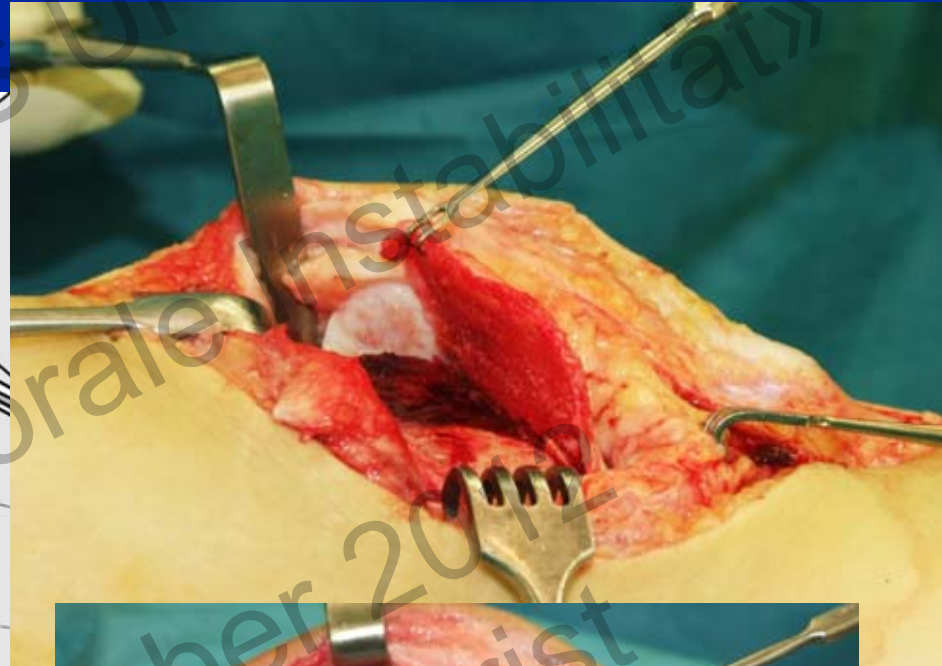
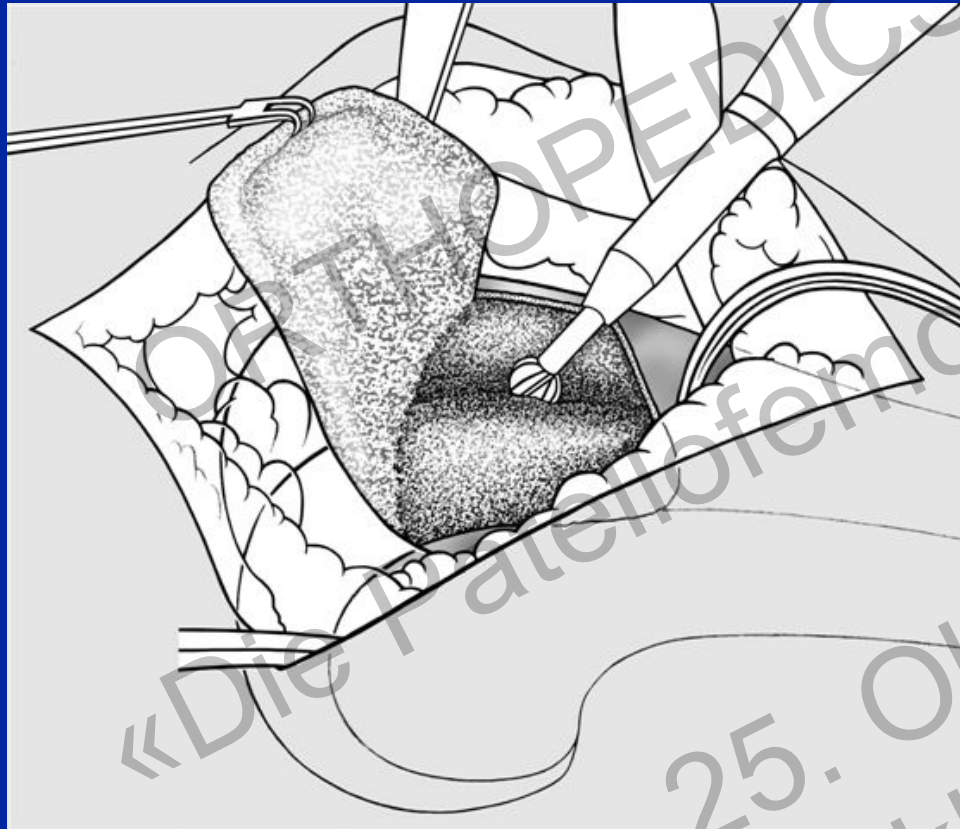


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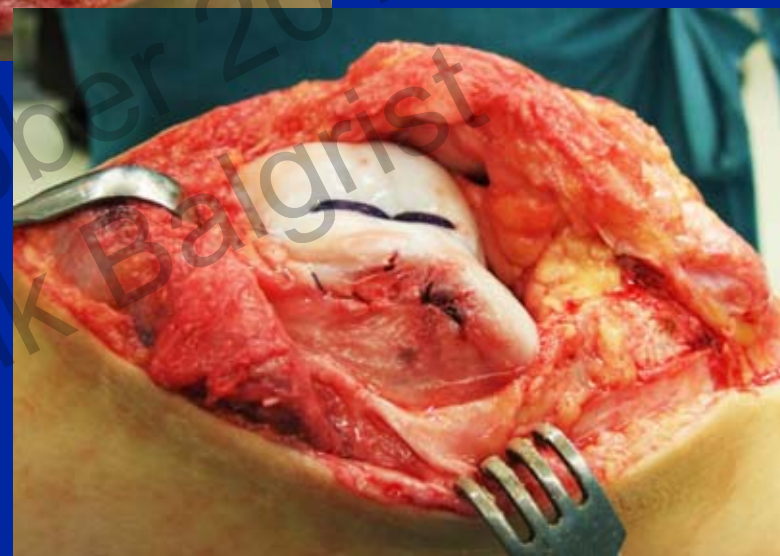
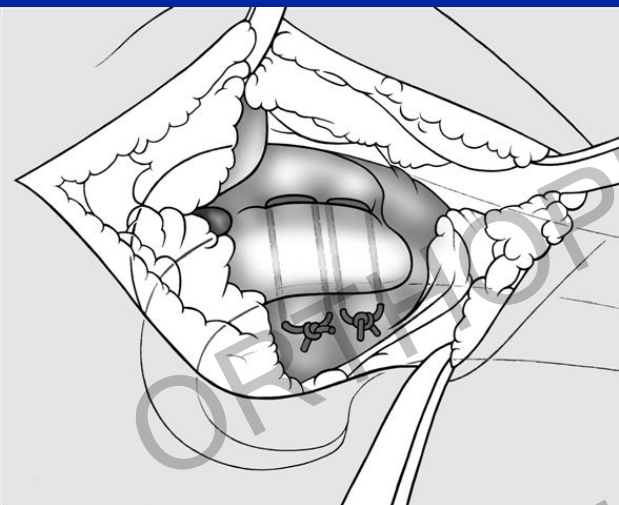




# SULCUS-DEEPENING TROCHLEOPLASTY



# SULCUS-DEEPENING TROCHLEOPLASTY



# PREOPERATIVE RX





# POSTOPERATIVE RX

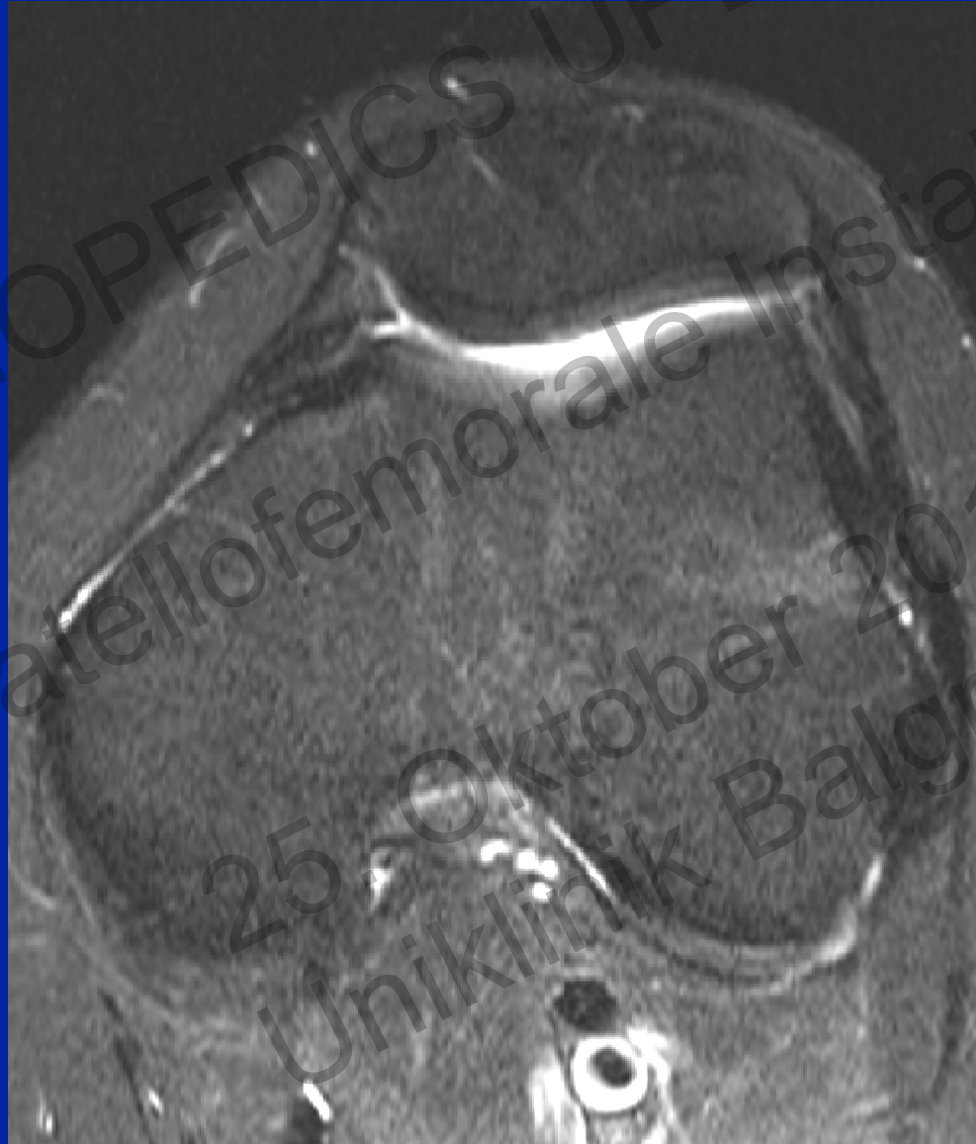


# PREOPERATIVE MRI





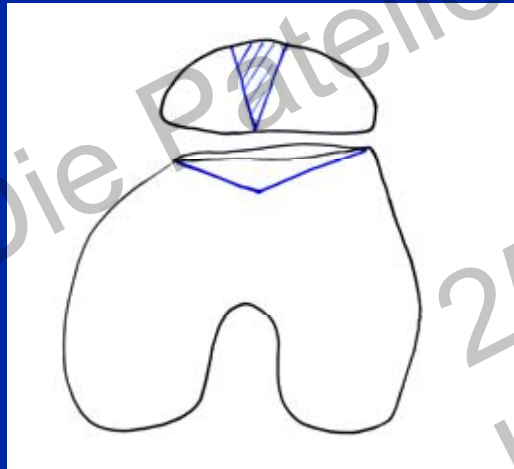
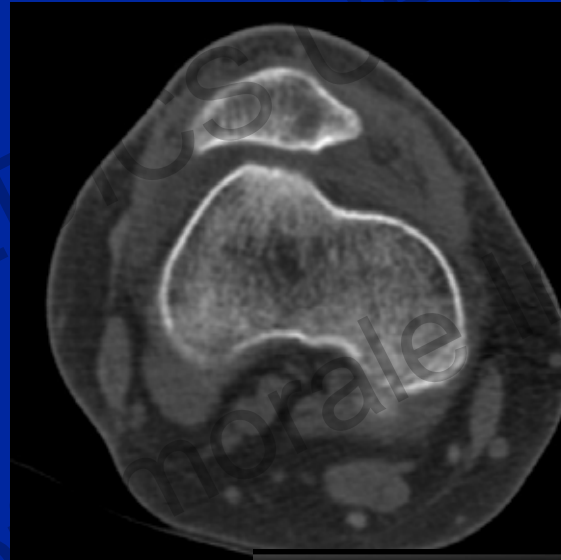
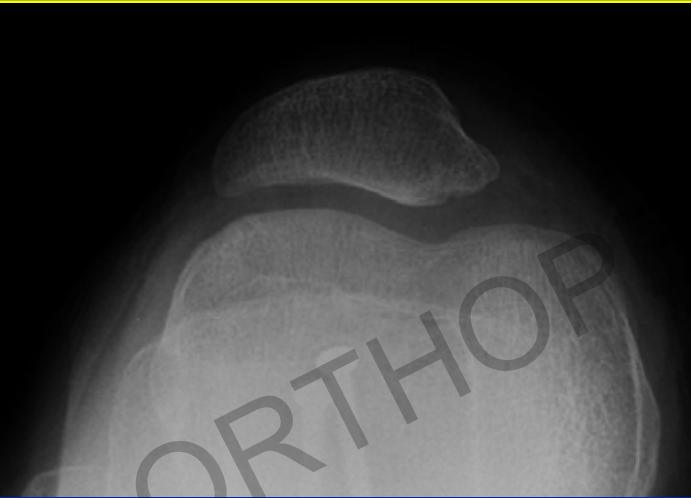
# POSTOPERATIVE MRI



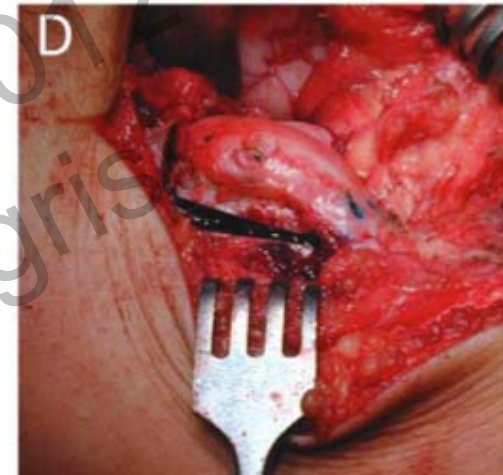
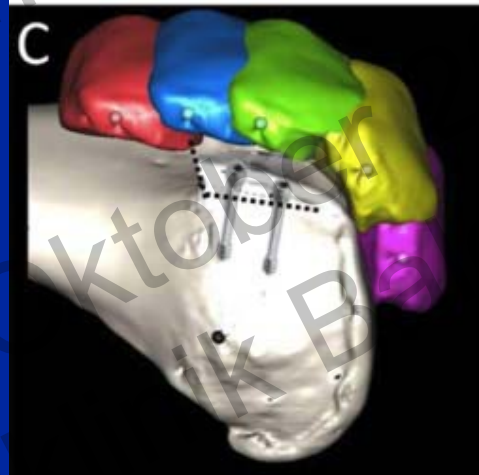
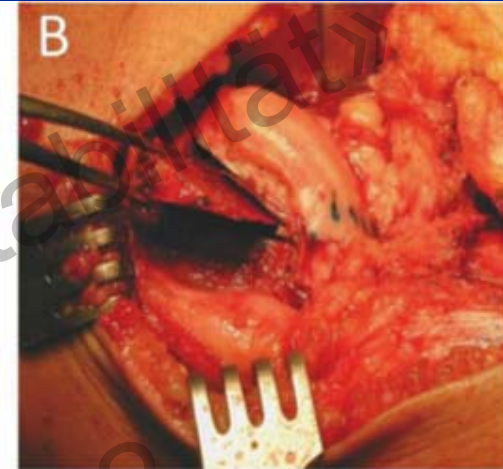
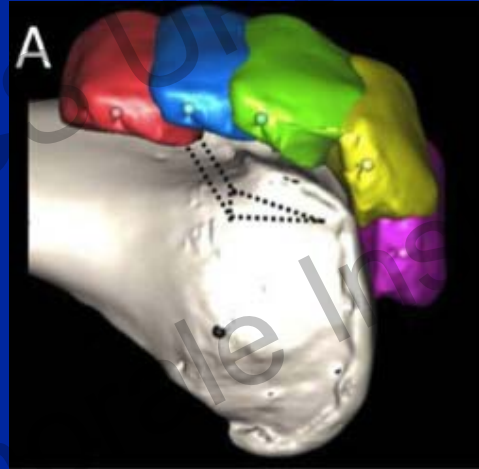
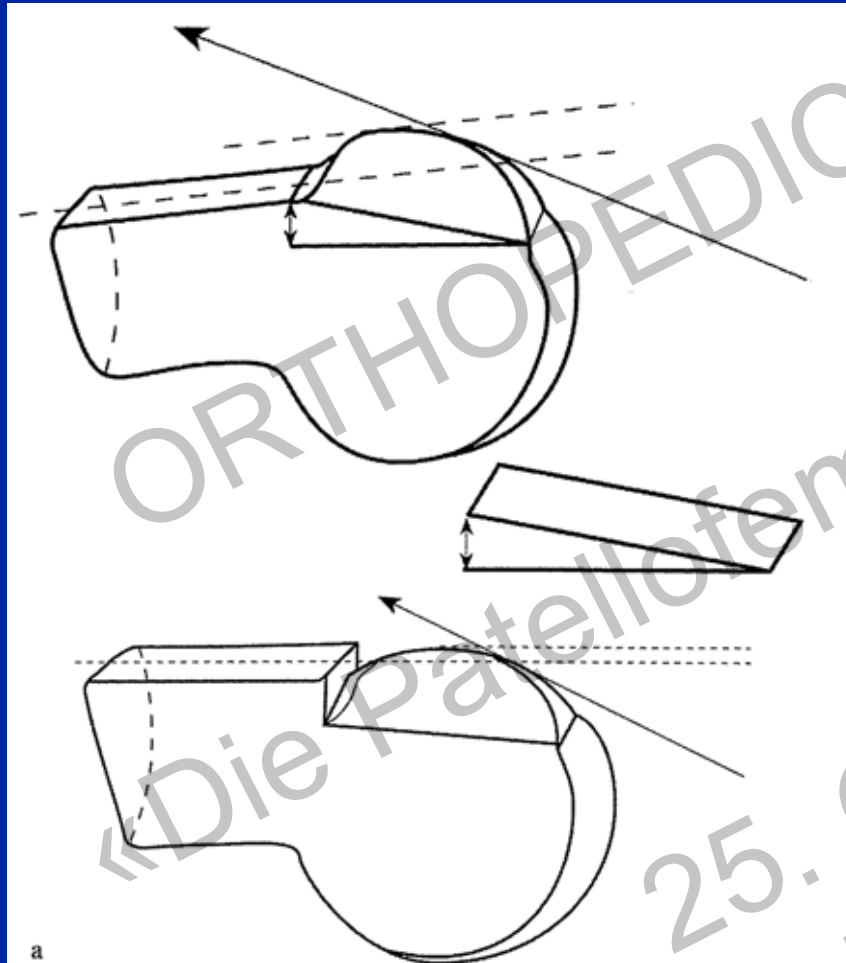
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# SPECIALS



# RECESSION TYPE



# RECESSION TYPE



Goutallier D. Rev Chir Orthop Reparatrice Appar Mot 88:678, 2002

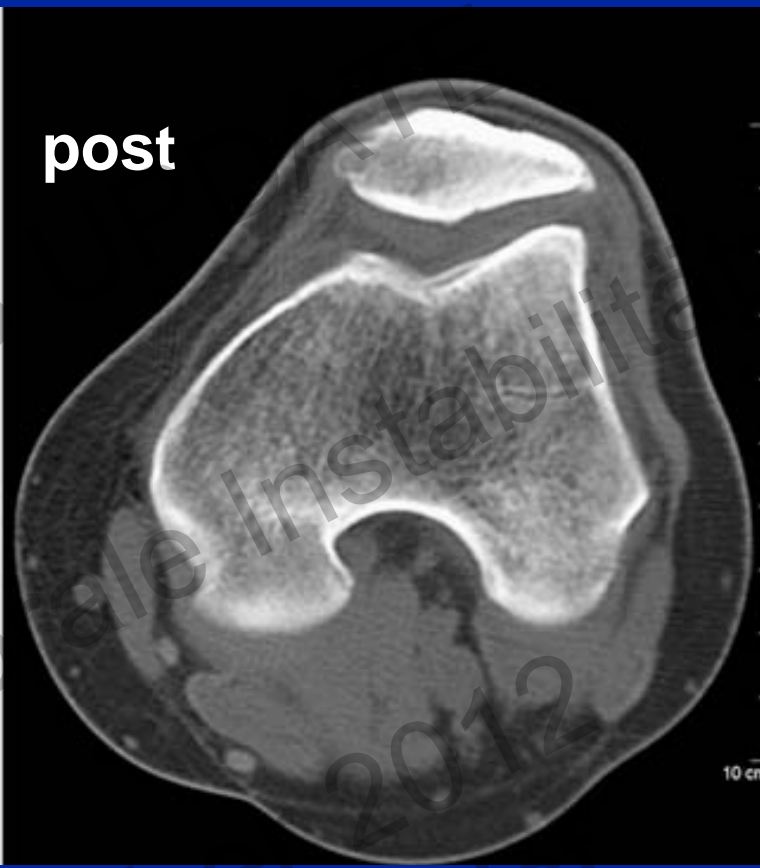


# HOW ARE THE RESULTS?

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<b>TTTG:</b>	20 (10 - 24) mm	9.9 (5 - 15) mm
<b>Depth:</b>	0 ((-5) - 4) mm	5 (2 - 10) mm
<b>Patellar tilt:</b>	22 (5 - 35) °	8 (1 - 20) °
<b>Sulcus angle:</b>	172 (150 - 190) °	133 (110 - 150) °

# CLINICAL RESULTS

<i>Author</i>	<i>F/up</i>	<i>n</i>	<i>technique</i>	<i>satisfaction (%)</i>	<i>pain (%)</i>
Masse	40	18	deepening	?	11
Goutallier	48	12	recession	67	83
Verdonk	18	18	deepening	77	46
von Knoch	96	45	deepening	100	91
Donell	36	36	deepening	80	?
Utting	24	59	deepening	92	15
Fucentese	48	44	deepening	80	10*



# KUJALA SCORE (n=44; f-up 4.2yrs)

	Preoperative	At follow-up	Difference	P-value
<b>Total</b>	<b>65.2 (29 - 84)</b>	<b>84.5 (42 - 100)</b>	<b>19.2</b>	<b>&lt;0.001</b>
<b>Stability</b>	<b>0.5 (0 - 6)</b>	<b>8.8 (0 - 10)</b>	<b>8.3</b>	<b>&lt;0.001</b>
<b>Pain</b>	<b>6.8 (3 - 10)</b>	<b>7.6 (3 - 10)</b>	<b>0.8</b>	<b>0.027</b>





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# RECURRENCE OF INSTABILITY

<b>Verdonk:</b>	<b>0%</b>	
<b>Utting:</b>	<b>0%</b>	
<b>Von Knoch:</b>	<b>0%</b>	
<b>Donell:</b>	<b>?</b>	<b>50% pos apprehension</b>
<b>Thaunat:</b>	<b>10%</b>	<b>31% pos apprehension</b>
<b>Fucentese:</b>	<b>7%</b>	<b>25% pos apprehension</b>



# PROBLEMS

- Recurrence: 0 – 10%
- Pain up to 91%
- Stiffness 0 – 46%

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# INDICATIONS

Author	F/up	n	technique	pain (%)	instability (%)
Masse	40	18	<b>deepening</b>	<b>61</b>	<b>100</b>
Goutallier	48	12	<b>recession</b>	<b>100</b>	<b>0</b>
Verdonk	18	18	<b>deepening</b>	<b>100</b>	<b>54</b>
von Knoch	96	45	<b>deepening</b>	<b>77</b>	<b>100</b>
Donell	36	36	<b>deepening</b>	<b>?</b>	<b>100</b>
Utting	24	59	<b>deepening</b>	<b>?</b>	<b>100</b>
Fucentese	48	44	<b>deepening</b>	<b>-</b>	<b>100</b>



# INDICATIONS

**Subjective instability with apprehension sign**

**+ 1 or more dislocations**

**+ radiologically confirmed dysplasia**

**Which type???**



# WHICH TYPE?

**MPFL-reconstruction with good results also in mild dysplasia<sup>1</sup>**

**Type B and D better clinical outcome ( $p=0.02$ )<sup>2</sup>**

**Recurrence of soft tissue procedures in children:  
severe dysplasia<sup>3</sup>**

1 Schöttle P. KSSTA 13:51, 2005

2 Fucentese S. KSSTA 19(10):1655, 2011

3 Nelitz M. KSSTA 20(5):822-8, 2012

# CONTRA-INDICATIONS

**Patellofemoral arthritis**  
**Open epiphyseal plate**  
**Pain?**

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# CORRELATION: PAIN AND OUTCOME

**Clinical outcome: no correlation with preop pain**

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# CONCLUSION I

## Clinical outcome:

- Subjective → good
- Instability → solved
- Pain → not predictable!



# CONCLUSION II

**Indication for severe dysplasia**

**often combined with other surgical procedure  
(MPFL-reconstruction, tuberosity transfer,...)**

**Surgery „à la carte“<sup>1,2</sup>**

1 Dejour H. Rev Chir Orthop Reparatrice Appar Mot 76:45, 1990

2 Dejour D. Sports Med Arthrosc 15:39, 2006



THANK YOU

*uniklinik*  
**balgrist**

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