



# Postoperative Akutphase

 **QKG** Qualitätskreis  
Knorpel-Repair  
& Gelenkerhalt e.V.

Frank Diemer

# 1. Implantation - early Protection (ca.-6. Woche)



Edwards 2014, Paatela 2020



**👉 Protektion Transplantat**

**👉 Aktivierung Patient**

**-Entzündungskontrolle - Gelenkbelastung**

**-Mobilisation**


**-Koordination - Aktivierung Schlüsselmuskeln**

**-Patientenmanagement**



REVIEW ARTICLE

# The Interaction between Joint Inflammation and Cartilage Repair

Peter M. van der Kraan<sup>1</sup> 

Lokaler  
Entzündungsstoffwechsel



systemischer  
Entzündungsstoffwechsel





- Reliabel (Mufti 2018)
- Valide (Osbahr 2002)



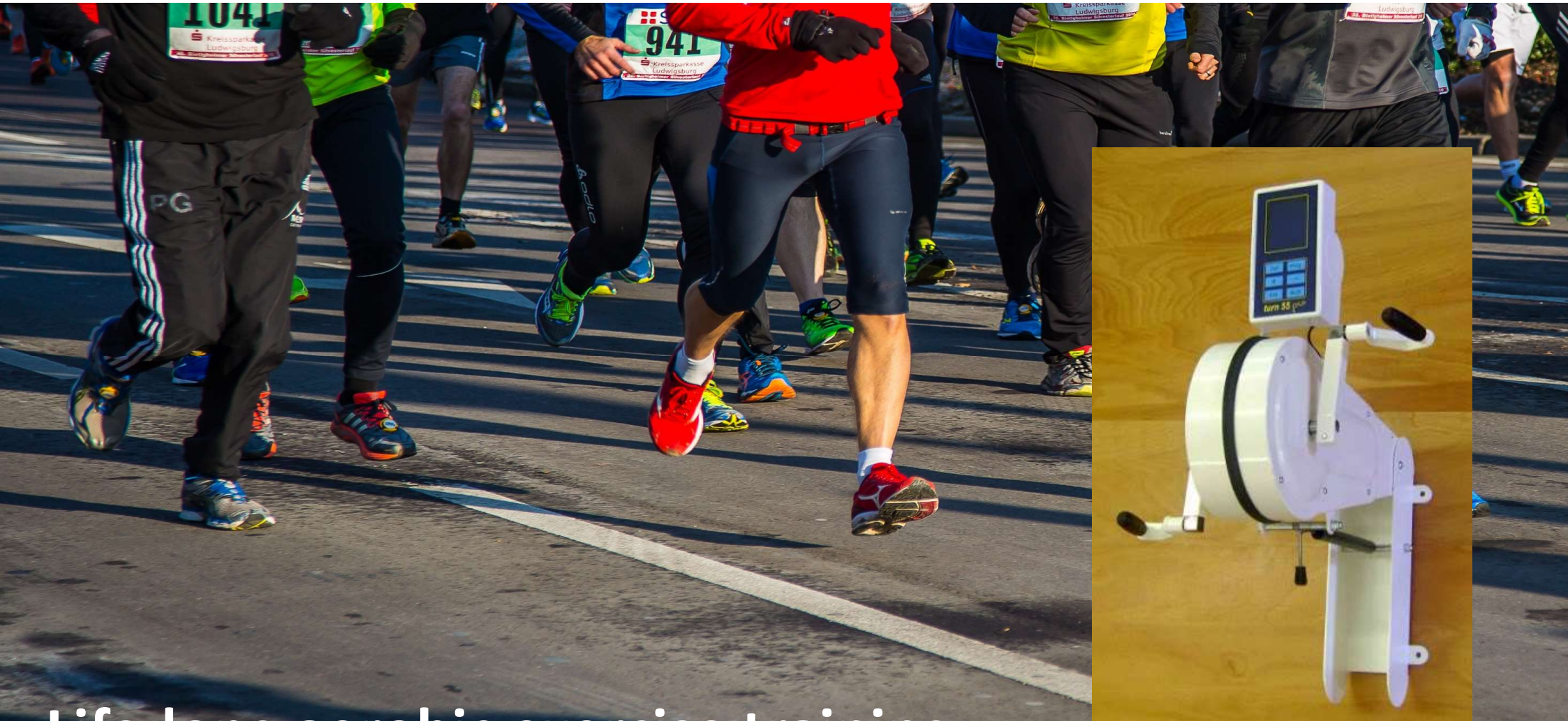
- $>1,5/2^\circ$  im SV  
(Fernandez 2017, Romano 2011,  
Weber 1990)

# Hyaluronsäure/PRP



Altman 2019, Boffa 2020a/b, Robinson 2019, Shang 2016






# Life-long aerobic exercise training – 150 Minuten/Woche

Lavin 2020, Chambers 2020, Metsios 2020

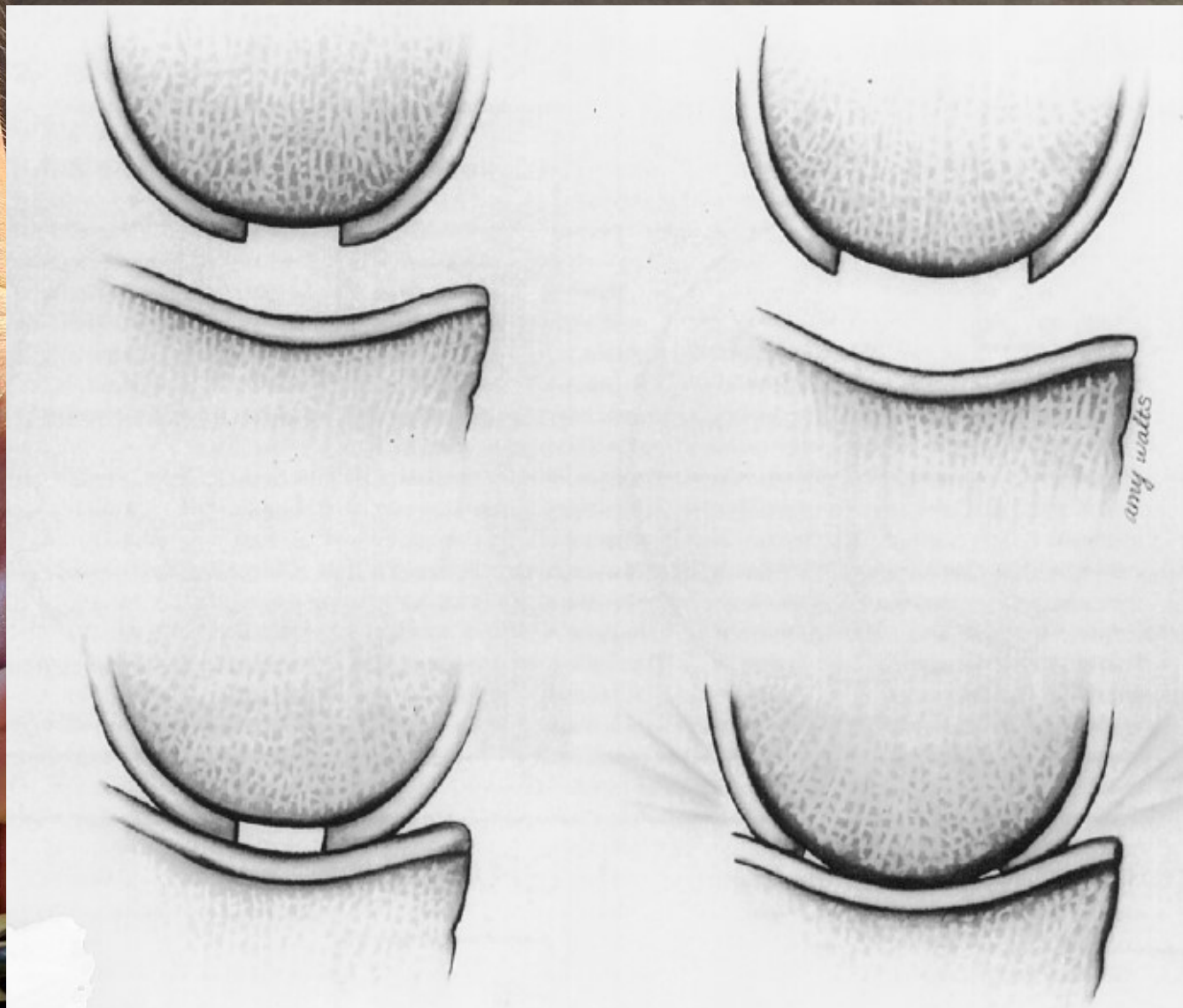
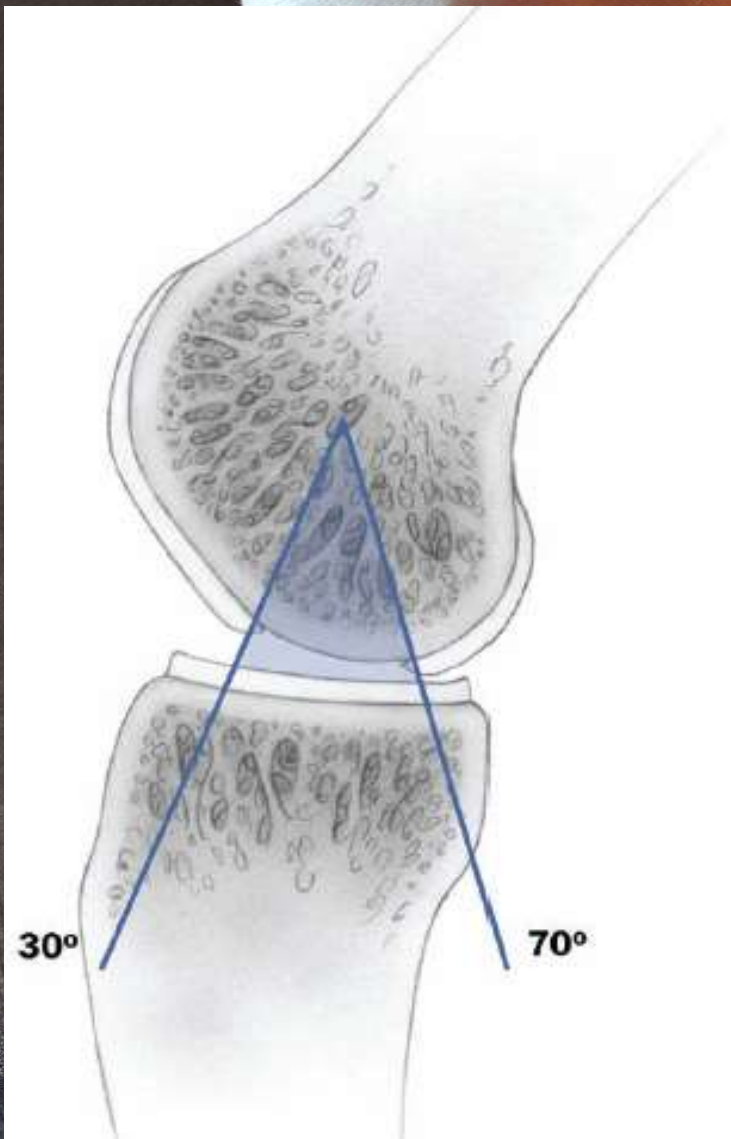


A photograph of a pregnant woman's belly with a hand resting on it. In the foreground, a burger and a pile of fries are placed on a wooden cutting board. The burger has a beef patty, cheese, ketchup, and pickles. The fries are golden and piled up.

# ☞ anti-inflammatorische Ernährung

(Nijs 2020a/b, Rondanelli 2018)





Kutzner 2017, 2012, 2011, Hodges 2016, Liao 2019, van Rossom 2018, Hirschmüller 2018, Mandelbaum 1998

# Mobilisation

- ☞ schwache Studienqualität
- ☞ Empfehlung für 1-8h/Tag – 6 Wochen
- ☞ progressive Steigerung: 0-30°/60°/90°



Edwards 2014, Rogan 2013, Karnes 2013, Fazalare 2010, Hirschmüller 2011





# Aktivierung Schlüsselmuskeln



Quadrizepsdefizit (Schmitt 2014)



„Avoidance“ (Kline 2019)



Belastung  $\uparrow$   
(Ward 2018)



Funktion  $\downarrow$   
(Nawasreh 2018)



Degeneration  $\uparrow$   
(Pietrosimone 2019)



A silhouette of a wolf howling at a full moon in a forest at night. The wolf is perched on a rock, looking up towards the moon. The background is a dark blue night sky with a large, bright full moon and some stars. The foreground shows the silhouettes of evergreen trees.

# Wer hat Angst vorm bösen Wolf?

Noehren et al. 2020



☞ Kryotherapie

☞ Cross over

Hauger 2018, Logerstedt 2018, Sonnery-Cottet 2019, Harput 2019





# Kriterien

## **Klinik:**

- ✓ Schmerz ( $\leq 2$ )
- ✓ Schwellung ( $\leq 1\text{cm}$ )
- ✓ Temperatur ( $< 2^\circ$ )

## **Funktion:**

- ✓ Extension
- ✓ Innervation
- ✓ Gangbild

-Edukation

-Patientenparadigma

-Funktion

-Entzündungskontrolle

-progressive Gelenkbelastung

-Mobilisation

-Innervation Schlüsselmuskeln

