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Taking a Deeper History in Musculo-skeletal Consultations

Genetics, metabolism and morphology



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Why this topic?

- Better health care
 - stronger relationships
 - personal
 - expectations
- Health misinformation
 - vs evidence-based

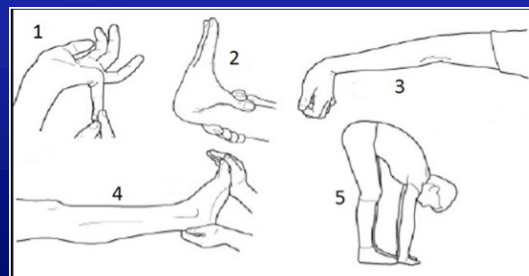
**Amazing new
lipstick that
helps you lose
weight...**



1 Genetics – the study of genes and our heredity

“tell me about your biological family”...

- Arthritis
 - Degenerative / other
- Instability, hypermobility
- Tendinopathy
- Autoimmune
- Bone density disorders
 - Ribbans et al 2022

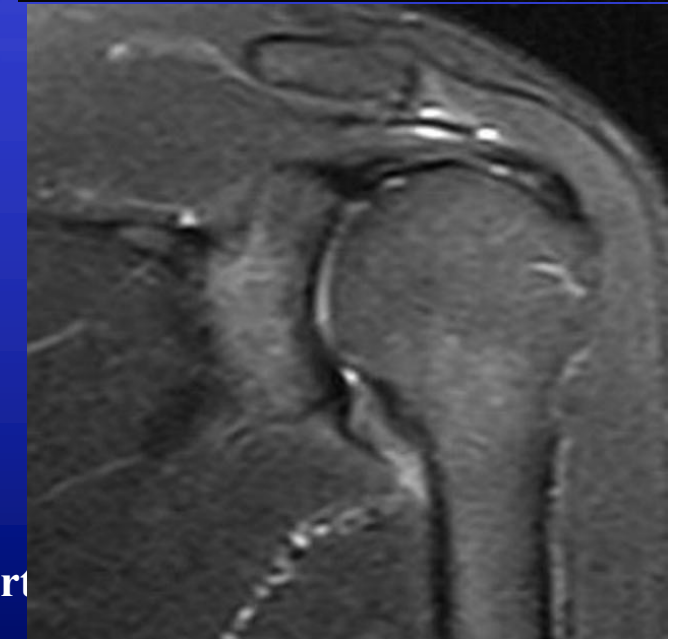
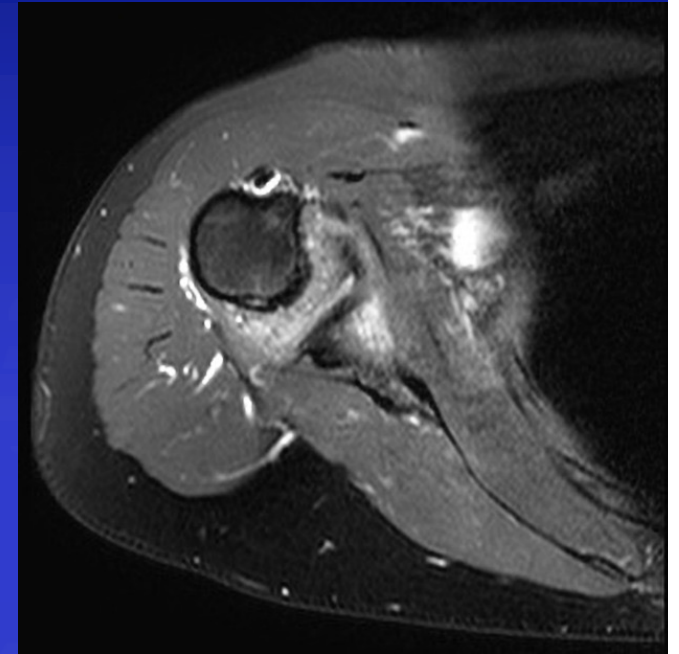


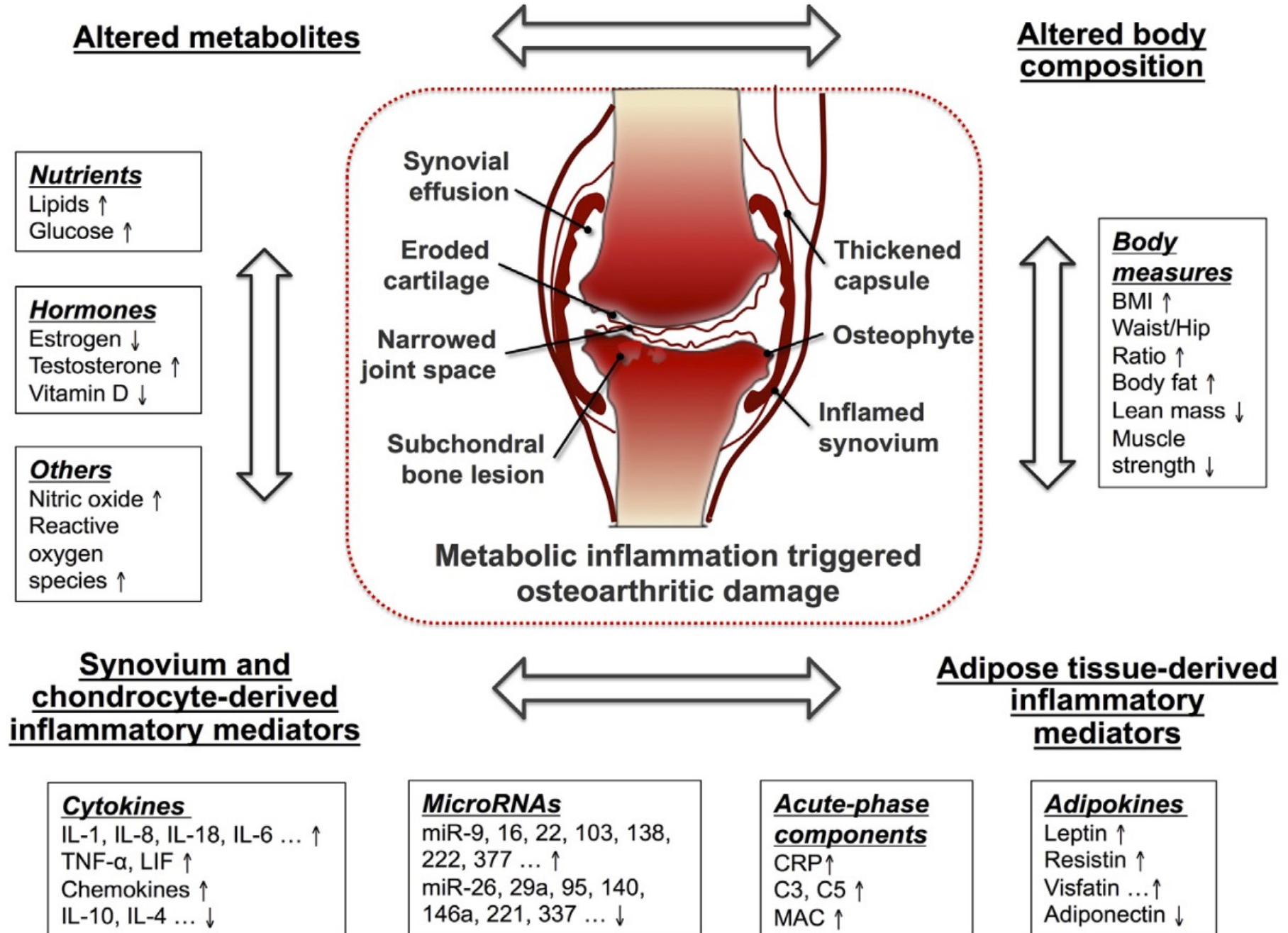
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Case study shoulder capsulitis

- Female 52years
- “Right frozen shoulder” 3 years ago –’took ages’
 - Residual restriction
- Developed Left shoulder pain and restriction without trauma
- T2DM
- FHx of autoimmune conditions
- More prompt management





2 Metabolism

“the complex system of how your body works and uses energy”

- Metabolic syndrome (MetS)
 - Insulin resistance, obesity, hypertension, hypertriglyceridaemia, hyperuricaemia
- Microcirculation
- Bone metabolism
- Biochemical disorders - Gout, haemachromatosis
- Rarer genetic disorders – mitochondrial d/o, McCardle's, PKU



Abate et al 2013

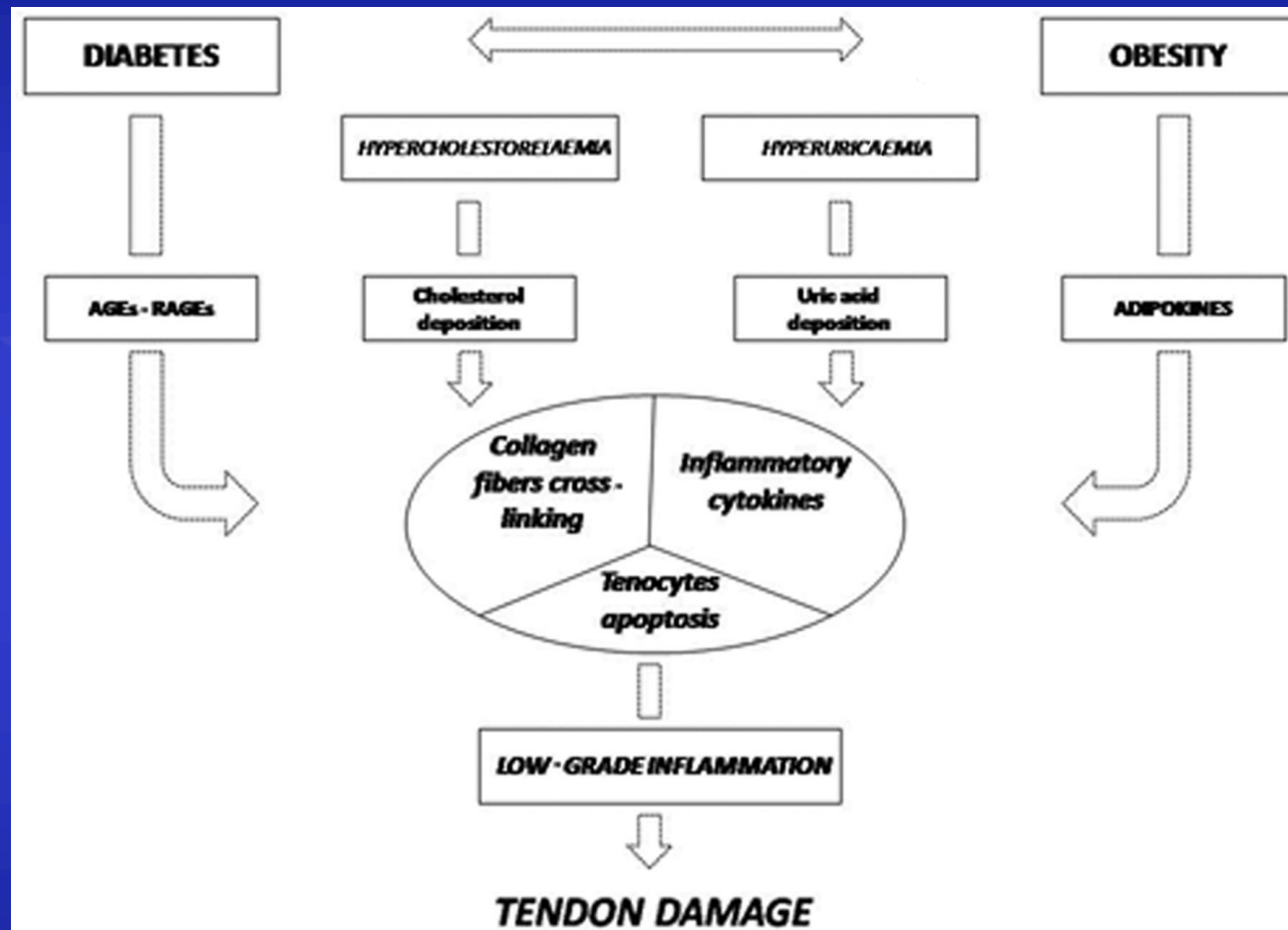
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Common pathogenetic pathways of tendon damage in metabolic disorders. Diabetes and obesity are the best-known ...



Rheumatology (Oxford), Volume 52, Issue 4, April 2013, Pages 599–608, <https://doi.org/10.1093/rheumatology/kes395>

52 yo male, groin pain and limp
Obese (BMI 31), FHx osteoporosis
increase walking 3 months
- low testosterone and GH, osteoporosis



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3 Body Morphology

- Weight, BMI, shape
 - ‘Fit’ with ↑BMI
- Adiposity and cytokines
- Eating patterns and relationship with food
- Lifestyle management
 - Cicuttini 2016 podcast
 - Drs Paul Mason, Doron Sher youtube

*“Weight management too complex for standard 15-minute GP consultations, Australian of the Year says “, SMH, 9TH July 2023
Taryn Brumfitt*

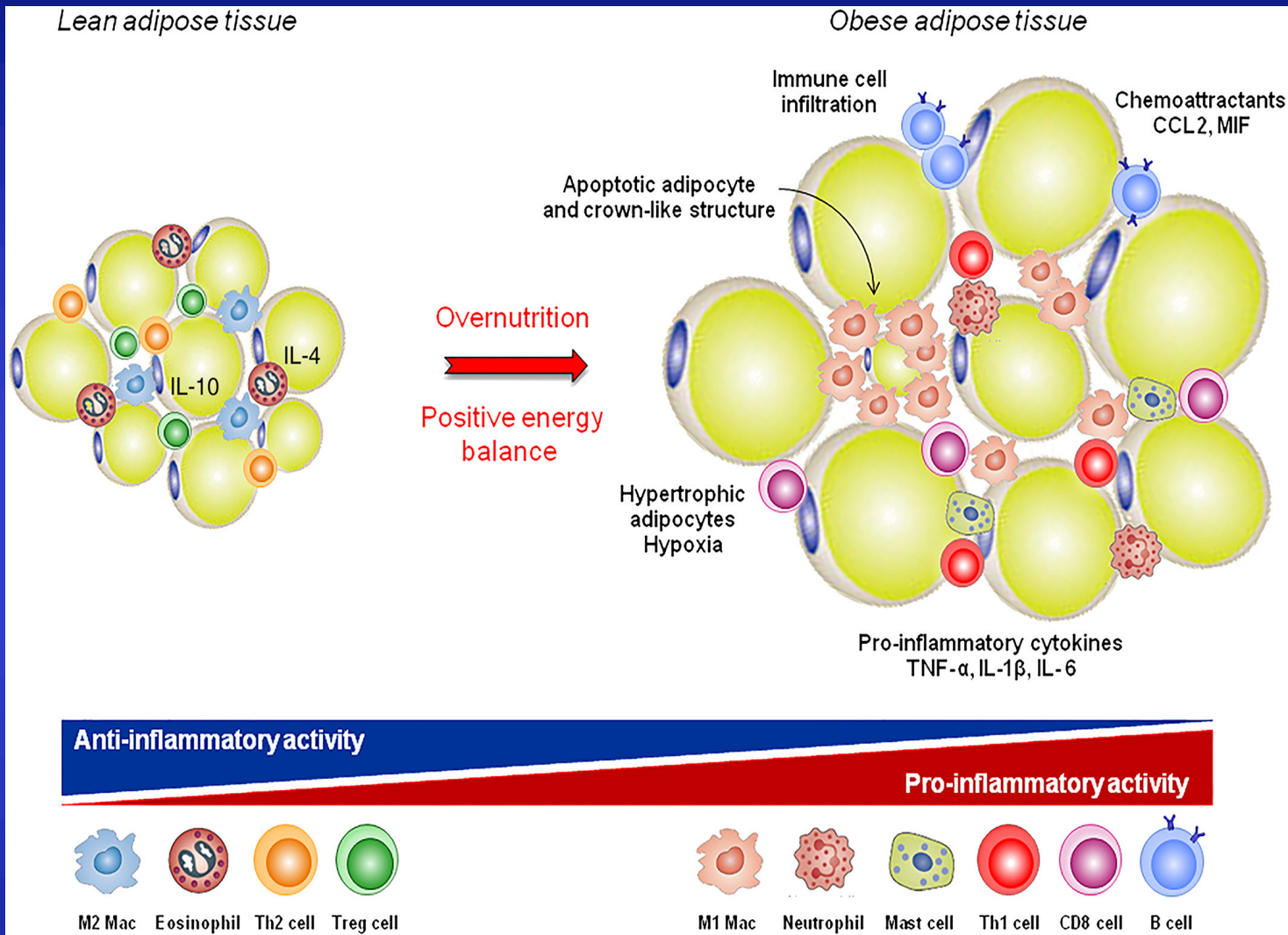


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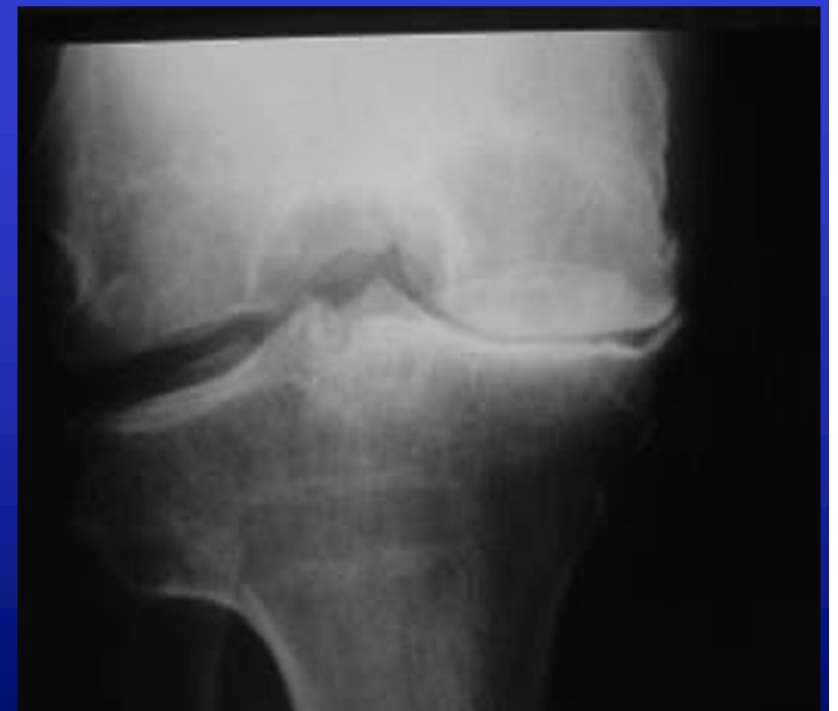
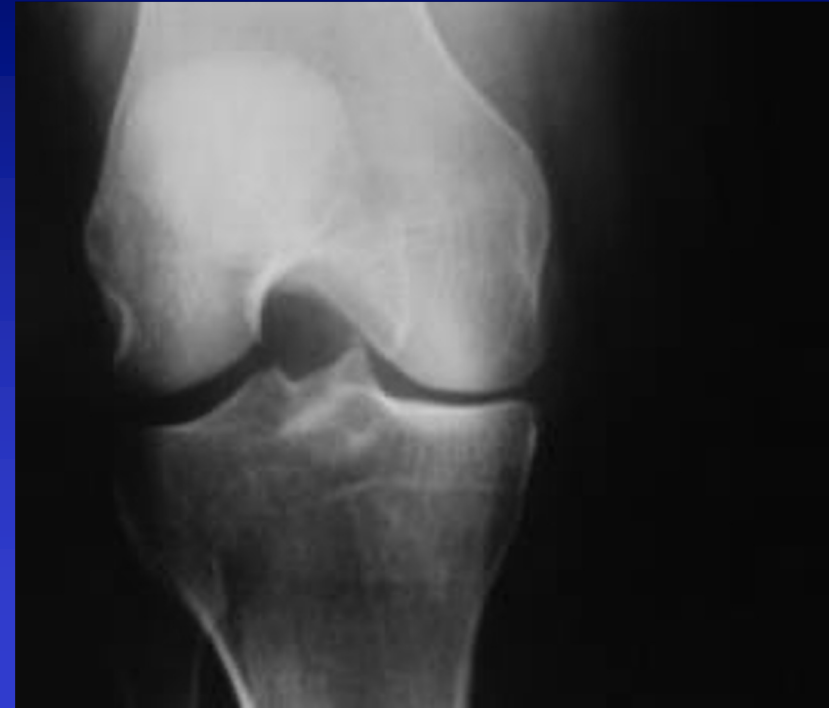
Adipokines and inflammation: is it a question of weight?



British J Pharmacology, Volume: 175, Issue: 10, Pages: 1569-1579, First published: 27 February 2018, DOI: (10.1111/bph.14181)

Progression of OA

- 45 yo female
- ACL injury aged 22, netball
- Pain with loading for last 5 years
- Dramatic weight gain and deconditioning during that time
 - Peri-menopausal
 - BMI 27→30.4
 - 78→88kg
- Xray changes within 5 years
- Valgus changes with PF pain



Learning from Supercentenarians

- The Blue Zone people groups
 - “Eat until you are 80% full”
 - Lower carbs and higher protein
- Avoid processed foods and ‘fast food’
- With others - be active, sleep well, be creative



Summary and thank you

- Holistic care of our patients with MSK problems includes enquiring about genetics, metabolism and perhaps morphology
- It allows you to be thorough and personal in your care responsibilities and will ensure trust for the years to follow

