

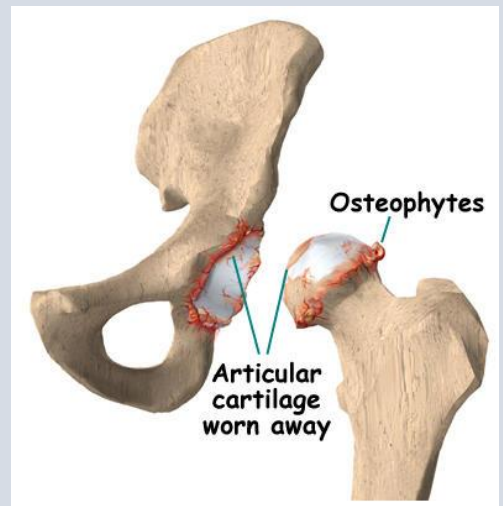
# EPOSA FACT

## Developmental origins of osteoarthritis

### Growth in early life and osteoarthritis in late life

Osteoarthritis (OA) is the most common of the joint disorders affecting older people. Although OA mainly occurs in late life, previous studies have linked growth in early life to musculoskeletal health in late adulthood.

In the UK part of the EPOSA study, we sought to extend these observations by investigating relationships between growth in early life and clinical and radiological diagnoses of OA among older adults.



Relationship between birth weight and weight at 1 year negative S.D. scores and clinical OA

	Clinical OA					
	Knee		Hip		Hand	
	Odds ratio (95% CI)	P-value	Odds ratio (95% CI)	P-value	Odds ratio (95% CI)	P-value
Weight at birth negative S.D. score						
Unadjusted	1.109 (0.85,1.44)	0.439	0.741 (0.47,1.16)	0.190	1.191 (0.91,1.56)	0.206
Adjusted <sup>a</sup>	1.209 (0.91,1.60)	0.187	0.777 (0.48,1.27)	0.311	1.174 (0.88,1.56)	0.266
Weight at 1 year negative S.D. score						
Unadjusted	0.937 (0.72,1.22)	0.627	0.957 (0.61,1.50)	0.849	1.396* (1.05,1.85)	0.021
Adjusted	0.889 (0.67,1.18)	0.428	0.949 (0.59,1.53)	0.829	1.266 (0.94,1.70)	0.117

<sup>a</sup>Adjusted for sex, age, body mass index, smoking status and alcohol.

\*P < 0.05.



A lower weight at the age of one year, but not birth weight, increased the risk of clinical hand OA in old age

Individuals with lower birth weight were more likely to have hip osteophytes



Furthermore, a low birth weight was associated with a higher osteophyte number in the lateral compartment of the knee

Relationship between birth weight and weight at 1 year negative S.D. scores and osteophyte growth

	Osteophyte positive					
	Knee (lateral compartment)		Knee (medial compartment)		Hip	
	Odds ratio (95% CI)	P-value	Odds ratio (95% CI)	P-value	Odds ratio (95% CI)	P-value
Weight at birth negative S.D. score						
Unadjusted	1.299 (0.97,1.74)	0.081	1.079 (0.78,1.48)	0.642	1.512** (1.14,2.00)	0.004
Adjusted <sup>a</sup>	1.388* (1.01,1.91)	0.043	1.129 (0.81,1.56)	0.467	1.509** (1.13,2.01)	0.005
Weight at 1 year negative S.D. score						
Unadjusted	1.282 (0.95,1.73)	0.105	1.157 (0.84,1.60)	0.377	1.243 (0.94,1.63)	0.121
Adjusted <sup>a</sup>	1.261 (0.91,1.75)	0.162	1.188 (0.84,1.67)	0.326	1.224 (0.92,1.63)	0.167

<sup>a</sup>Adjusted for sex, age, body mass index, smoking status and alcohol.

\*P < 0.05, \*\*P < 0.01.



In this study, we have found further evidence of a relationship between early life factors and OA in older adults

