Hypothesis: Evidence suggests that trapeziometacarpal (TMC) arthrosis is a normal part of human aging, but that’s not how it’s routinely considered. Our primary study question addressed the radiographic prevalence of TMC arthrosis at ten-year age groups in patients who presented with a distal radius fracture aged 31 years and older. We also tested for differences by sex.

Methods: A total of 2321 patients who were 31 years or older with radiographs obtained during treatment of a distal radius fracture between 2002 and 2012 were analyzed. Trapeziometacarpal arthrosis was graded using the 3-point scale of Sodha et al. (no, definite, severe).

Results: Three patients (0.1%) had radiographic evidence of prior surgery for TMC arthrosis and were not included in the analysis. Radiographic TMC arthrosis was noted from 31 years onwards. Its prevalence vastly increased from 17% to 45% between the ages of 41 to 50 years and 51 to 60 years, respectively. The prevalence steadily increased to 85% between the ages of 71 and 80 years, and reached 100% in women (50% severe) aged 91 years or older and 93% in men of 81 years or older (there were only 6 men older than 90 years in our cohort so the 67% prevalence in that age group is not reliable). Severe arthrosis was more prevalent at earlier ages amongst women and reached 35% in women and 34% in men who were 81 years or older.

Logistic regression identified age (odds ratio = 2.6 per 10 year interval, 95% confidence interval = 2.4–2.8; P < 0.0001) as the strongest factor associated with TMC arthrosis, but sex (women; odds ratio = 1.3, 95% confidence interval = 1.0–1.5; P = 0.025) was also a factor.

Summary:
- Age was the most important predictor for radiographic evidence of TMC arthrosis and more severe disease. TMC arthrosis is like grey hair: if you live long enough, you get it.
- This combined with the fact that only three patients had evidence of prior surgery suggests that most people adapt to TMC arthrosis.
- Treatments that optimize adaptation in patients that present with symptoms and disability related to TMC arthrosis merit additional study.
● Contracted Research with: Skeletal Dynamics
● Royalties/Honoraria received from: AO North America, AO International, Wright Medical, Medartis
● Ownership Interest (stocks, stock options, or other ownership interest excluding diversified mutual funds) with: Illuminos
● Consulting Fees (e.g. advisory boards) received from: Wright Medical, Skeletal Dynamics
♦ Nothing of financial value to disclose