SSC Critical Appraisal 2

“The Relationship Between Social Deprivation and the Incidence of Adult Fractures”

1. Aims and Objectives
   - To assess whether social deprivation has an effect on the incidence of adult fractures
   - Focusing primarily on proximal femoral fractures but some results are mixed
   - “Relationship of social deprivation with the rate of fractures in an adult population.”

2. Population
   - Study documented all patients presenting to RIE with a fracture between July 2007 and June 2008.
   - Examined all in- and out-patients age 15yrs and older
   - Used only the patients from the pre-defined catchment area - regardless of injury location

3. Study Size
   - The catchment area (from 2001 census) has 517555 individuals aged 15 yrs or older
   - During the study, 6872 fractures from this area were treated

4. Stats
   - The Carstairs score was used to divide the population into 10 deciles (10th = most deprived)
   - Decile system was then used to analyse the relationship between social deprivation and fractures to calculate odds ratios for the fractures and modes of injury

5. Outcome Measure
   - The data was analysed and presented in tables:
     - “The Probabilities, Confidence Limits, and Odds Ratios Gained from Comparing the Incidence of All Fracture Types in Deciles 9 & 10 with Those In Deciles 1 to 8.”

6. Main Results
   - The incidence of fractures increases steeply within the 2 highest deciles (9 & 10), and they have smaller populations
   - In males there is an association between social deprivation in 22/27 fracture types. In females there is an association in 17 of the 27 fracture types.
   - In males, only fracture that showed no association = distal femoral fracture

7. Sources of Bias
   - Sex/age were not accounted for fully
   - Only takes into account areas within Edinburgh - levels in different cities will be different
   - Ethnicity was not taken into account
   - Did it by postal code; some people can live in social deprivation in affluent areas
   - People at the more deprived end of the 8th decile?