

## Osteoarthritis Year 2017 in review: Genetics/Genomics and Epigenetics

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The purpose of this review is to describe highlights from original research publications related to genetics, genomics and epigenetics with the intention of recognising significant advances. To identify relevant papers a Pubmed search was conducted for articles published between April 2016 and January 2017 using the search terms 'osteoarthritis' together with 'genetics', 'genomics', 'epigenetics', 'microRNA', 'lncRNA', 'DNA methylation' and 'histone modification'. The search term osteoarthritis generated almost 4000 references. Publications using the combination of descriptors osteoarthritis and genetics provided the most references (82 references). However this was reduced compared to the same period in the previous year; 8.1% to 2.1% (expressed as a percentage of the total publications combining the terms osteoarthritis and genetics). Publications combining the terms osteoarthritis with genomics (19 references), epigenetics (13 references), lncRNA (10 references), DNA methylation (18 references), histone modification (3 references) and microRNA (50 references) were reviewed. There continues to be a year on year increase in publications researching microRNAs in osteoarthritis (expressed as a percentage of the total publications), with a doubling over the last 4 years. Selected studies chosen from the latest publications of high significance to osteoarthritis will be discussed.