MICROBIOME TRANSPLANTATION FOR OSTEOARTHRITIS THERAPY
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There are currently no disease-modifying therapies available for osteoarthritis (OA) treatment, which is the leading cause of chronic disability in the US.

MRL/MpJ (Murphy Roths large) mice demonstrate a ‘superhealer’ phenotype and have distinct cecal microbiome profiles compared to C57BL6/J mice.

Previous studies show that gut microbiome transplantation to non-healer mice can confer ‘healing’ phenotype.
Microbiome transplantation can reduce the severity or prevent progression of knee OA.
Microbiome transplantation from MRL to B6 mice reduces OA severity following DMM (disruption of medial meniscus) surgery.
Dr. Jeffries has identified that gut microbiome transplantation from OA-protected MRL mice into OA susceptible B6 mice reduces OA histopathology.

OA protection correlates with certain gut microbiome clades; particularly, *p_Actinobacteria*, *p_Bacteroidetes* (particularly *f_Dehalobacteriaceae*), and *o_Burkholderiales*.

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