Adolescent females with anorexia nervosa are at risk for osteoporosis.

Estrogen deficiency is thought to be a major contributor to bone loss and bone fragility. Recent developments to replace estrogen through topical application (transdermal) have shown promising results for bone health. This open label Randomized controlled trial will assess bone health in adolescent females with anorexia nervosa. Participants will have their bone health assessed at the beginning of the study and at four other times over a 24-month period. Participants will fill out questionnaires and complete a bone density scan, spine x-rays, blood tests and new state of the art high resolution bone imaging techniques. Dr. Munier Nour and investigators will gain a greater understanding of bone health in girls with anorexia. Currently, no proven treatment or prevention therapy has been approved for optimizing bone health in young females with anorexia and this study may provide evidence for future therapies.