

**Dr. Marie-Lyne Nault**

*"BIOMENIX; Innovative meniscus repair using injectable biomaterials"*

The menisci play an essential role in cushioning and protecting the cartilage in the knee joint. Unfortunately, meniscal lesions are very frequent and are the most frequently operated lesions in orthopedic surgery. The 2 current surgical solutions, meniscectomy and meniscal suture, are unable to satisfy both patient and surgeon at the same time. Meniscectomy is simple surgery for the surgeon, but leads to early osteoarthritis for the patient. Meniscal suture protects against this complication, but is a more complex and time-consuming procedure, with failure rates of up to 24%. It is therefore necessary to develop a new solution that will both improve patients' quality of life by preserving their menisci, and improve surgeons' quality of work by offering them an effective, easy-to-use tool. At present, no effective tissue adhesive for meniscus repair has been identified. The aim of this project is to develop and characterize biomaterials that can be used to repair menisci easily, quickly and safely. In addition, a surgical device for minimally-invasive application of these biomaterials will be developed. The project will be carried out on an interdisciplinary basis, involving patient partners. The expected impact will be major for the patient, preventing the development of early osteoarthritis and thus improving quality of life. The surgeon's quality of work should also be considerably improved. All in all, this should have a major overall socio-economic impact.