Lecture 12 Reflection

Motor adaptation

Endoscopic ear surgeons have been trained to do traditional ear surgery which requires very different motor control than endoscopic ear surgery. The biggest difference is that endoscopic ear surgery requires the surgeon to operate single-handedly. Learning endoscopic ear surgery requires the surgeon to undergo motor adaptation as they are operating in a different setup/environment with different conditions. This new environment replaces the microscope with an endoscope which offers skewed depth perception and the mode of entry into the ear is via the ear canal rather than a skin incision behind the ear. This can be related to the examples discussed by the guest speaker for example: when you first walk on ice and have never walked on ice before, you would walk and slip. Then, the next few steps you would try to figure out how to walk on it and adapt in this way. As well, walking on sand causes you to adapt to the environment and adapt your walking pattern. When you get off the sand it feels different and abnormal, so it takes a few steps to adapt to that new environment. Similarly, switching between the two approaches to surgery would require the surgeon to adapt their motor control and I wonder if the endoscopic ear surgeon would undergo motor adaptation during the first few minutes of traditional microscopic surgery since they are so used to endoscopic ear surgery.