

**Poster 350****Procedure Oriented Sectional Anatomy of the Knee.**

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**Disclosures:** S. Pandit, No Disclosures.

**Objective:** To provide anatomically accurate schematics of the knee anatomy relevant to needle procedures.

**Design:** Magnetic resonance images and anatomic references were synthesized to provide the basis for these illustrations. A review of the literature for complications in these procedures was compiled.

**Setting:** Academic PMR department.

**Participants:** Not applicable.

**Interventions:** Not applicable.

**Main Outcome Measures:** Not applicable.

**Results:** Cross sectional schematics for the knee were drawn as they appear in imaging projections. The level of cross section was selected to highlight important anatomic landmarks for injection. Color coding was used to emphasize needle procedure targets (joint spaces, blue), structure to be avoided (red) and tissue types (muscles, gray; tendons/ligaments, yellow hatch pattern; bone, white; skin and fat, black; vessels, red outline; other tissues, gray).

**Discussion:** A review of the literature shows needle procedures of the knee include: pain medication/anaesthetic injection after total knee replacement, injection of viscosupplementation/platelet rich plasma/cryotherapy for osteoarthritis, botulinum toxin injection for anterior knee pain, joint aspiration for fluid/ blood/septic joint, knee irrigation/arthroscopic lavage procedures, steroid injection for inflammatory arthritis, injection of infrapatellar fat pad, arthroscopic knee procedures, calcium sulfate injection for tibial plateau fractures, sclerotherapy of Baker's cyst, methotrexate for knee synovitis, injection for meniscal cysts, and intraarticular radioactive gold for knee effusions. A review of procedures and complication reported in the literature will be reviewed.

**Conclusions:** It is hoped the schematics created in this paper allow for safer and more accurate needle procedures in the knee area.

**Poster 351****Maternal Weight Gain and Fetal Growth in Women with Physical Disabilities.**

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**Disclosures:** S. Parke, No Disclosures.

**Objective:** Few studies have documented detailed pregnancy outcomes of women with physical disabilities (WWPD). More specifically, there has been scant data collected on maternal and fetal weight gain in this population, and how this may affect the outcome of the pregnancy and fetus. This study investigates maternal weight gain and fetal outcomes, so that we may better understand and identify true risks associated with pregnancy in WWPD.

**Design:** Chart review from 1/1/2006 to 4/1/2012 from women's charts with a specific disability diagnosis.

**Setting:** Tertiary care health system.

**Participants:** WWPD over the age of 18 with multiple sclerosis, spinal cord injury, cerebral palsy, or spina bifida.

**Interventions:** Not applicable.

**Main Outcome Measures:** Maternal weight gain during preg-

nancy, type of delivery, fetal growth during pregnancy, infant birth weight, gestational age (by ultrasound), body length, head circumference and 0, 5 minute Apgar scores.

**Results:** 55 charts were reviewed. A descriptive summary of the results from each disability diagnosis is reported separately.

**Conclusions:** Insight gained from this study will potentially advance research efforts and lead to better management and treatment of WWPD during pregnancy.

**\*\*Poster 352****Early Neuromuscular Electrical Stimulation for Intensive Care Unit Patients: Effect on Muscle Strength and Urinary Nitrogen Excretion.**

Tatjana Paternostro-Sluga (Medical University of Vienna, Vienna, Austria); Michael Hiesmayr, MD; Dominik Janda, MD; Stefan Senekowitsch, MD.

**Disclosures:** T. Paternostro-Sluga, No Disclosures.

**Objective:** Critical illness frequently results in both short and long-term muscle wasting and weakness. One major problem is post aggression catabolism combined with complete immobility due to illness, sedation and/or critical ill polymyoneuropathy. It is known that intensive care unit (ICU) patients lose up to 50% of their muscle mass during the ICU stay. The aim of the present study was to examine if early neuromuscular electrical stimulation (NMES) of quadriceps femoris muscle can counteract catabolism and enhance muscle strength.

**Design:** Prospective, randomized, single-blinded, controlled study.

**Setting:** University hospital, intensive care unit.

**Participants:** 40 ICU patients after cardiac and thoracic surgery randomly assigned to a stimulation or a sham stimulation group.

**Interventions:** Stimulation (60 Hz 3.6 sec On/ 4.6 sec Off) was performed daily for maximum of 2 weeks, until discharge from the ICU, two times for 30 minutes with surface electrodes and maximally tolerable stimulation intensity.

**Main Outcome Measures:** In all patients nitrogen excretion in urine and manual muscle strength testing according to Medical Research Council grading were measured daily.

**Results:** During the ICU stay, patients in the intervention group showed a lower increase in urinary nitrogen excretion (+56%) compared to the control group (+97%); this was a positive trend in favour of the stimulation group but not statistically significant ( $P > .05$ ). Loss of muscle strength was significantly ( $P = .015$ ) less in the stimulation group.

**Conclusions:** Early NMES could reduce loss of muscle strength in postsurgical ICU patients and shows a trend towards reducing post aggression catabolism as measured by urinary nitrogen excretion.

**\*\*Poster 353****Intensive Physical Therapy Reduces Length of Hospital Stay in Critically Ill Patients.**

Tatjana Paternostro-Sluga (Medical University of Vienna, Vienna, Austria); Wolfgang Gruther.

**Disclosures:** T. Paternostro-Sluga, No Disclosures.

**Objective:** Critically ill patients need rehabilitation from the beginning as soon as vital parameters are stable. Once the patient is discharged from the intensive care unit (ICU) to a normal ward, there is a high risk of insufficient treatment in regard to physical training and rehabilitation interventions. The aim of the present study was to examine if an intensive physical therapy and rehabilitation program in the