Spina Bifida Center: Common Terms and Tests

Neurosurgery

**Shunt**: A small tube placed under the skin that allows excess fluid of the brain to pass to the abdominal cavity.

**Hydrocephalus**: An abnormal progress collection of the normal fluid of the brain. This causes rapid head growth, pressure on the brain, which damages the brain and can be fatal. The shunt corrects this problem.

**MRI (Magnetic Resonance Imaging)**: A machine that produces images of the interior of the body without x-ray. Used to evaluate the brain and spinal cord for signs of shunt malfunction, the Chiari malformation (a brain abnormality seen in individuals with spina bifida), and tethered cord.

**CT (Computed Tomography)**: A machine that uses x-rays to produce images of the brain. It is used mainly to evaluate shunt function, (size of the ventricles which are normal cavities at the center of the brain), and shows bony detail better than the MRI.

**Tethered Cord**: Normally the lower end of the spina cord is free to move. Individuals with spina bifida have the lower spina cord caught by the opening on their back. This causes problems with the blood supply to the lower spina cord. The lower spinal cord supplies the nerves to the lower spine, legs, bladder and bowel.

**Tethered cord syndrome** is: Deterioration in function, sensory or motor, in the lower extremities. Deterioration in bladder or bowel function eg. changes in CIC, CMG, or infection and incontinence. Pain and Scoliosis may also occur. The diagnosis is made by manual muscle testing, CMG, the history of signs and symptoms. The MRI is not diagnostic but needed to plan the surgery. The treatment is surgical, Release of the Tethered Cord.

Orthopaedic

**X-Ray**: Radiographs of the spine and pelvis are obtained at the initial visit to assess for any abnormalities and provide a baseline to follow over time. Periodically follow-up x-rays may be needed for monitoring certain conditions or results of surgery.

**Orthotics** (AFO, KAFO): Orthotics are braces which are used for a variety of reasons in patients with spina bifida, including to maintain proper alignment of the legs, prevent deformity of the feet, correct flexible deformities, facilitate independent mobility, and to protect a limb with decreased or absent sensation.
Manual Muscle Test (MMT): A manual muscle test is performed by a skilled physical therapist and involves testing the strength of individual muscles and scoring them on a scale from 0 to 5. Babies born with spina bifida are usually tested before they leave the hospital and then regularly tested once or twice a year after that. Changes in a manual muscle test may alert the treatment team to the possibility of a tethered cord.

Casting: Serial casting may be prescribed to treat a deformity such as a joint contracture or foot deformity. This usually entails weekly manipulation and cast changes. Casting may also be used in treatment of a pressure sore in order to equally distribute pressure and allow the wound to heal.

Pressure Sore: A pressure sore is a wound on the skin which results from abnormal pressure concentrated in one area. Patients with spina bifida who do not have normal sensation are at increased risk for pressure sores since they do not feel pain. Because of this it is imperative that all patients check their feet daily and follow-up on a regular basis to have any braces checked as well.

Urology

Catheter: A small tube which is inserted through the urethra to help drain the urine.

Clean Intermittent Catheterization: When the catheter is inserted periodically to drain urine this is called clean intermittent catheterization. Catheterization empties the bladder of urine and keeps you dry and helps prevent infection.

Renal Ultrasound: A test that uses sound waves to study the renal system and the kidneys to look for changes in bladder wall, changes in kidney size and structure, kidney stones or other obstruction of the kidney, stones in the urinary tract and changes in the ureters. The test usually lasts 30-45 minutes.

Voiding Cystourethrogram (VCUG): This is an x-ray examination of the bladder and lower urinary tract that uses a special form of x-ray called fluoroscopy and a contrast material. The bladder is filled with and then emptied of a water-soluble material, which makes the radiologist able to view the internal organs.

Cystometrogram (CMG): This test allows the doctor to assess how the bladder and sphincter work while storing urine and when passing urine. A sterile saline solution will be drained into the bladder through the catheter while the doctor asks some questions about the feelings. Once the bladder is filled to capacity, you will be asked to empty it so they can record the pressures generated by your bladder.