

O is for orthopedic complications. Several factors make this topic especially timely. Those factors include an aging population, decreasing hospital stays and prospective payments. Each of the four complications discussed in this newsletter consists of a unique set of risk factors that, when present, contribute to a high index of suspicion for morbidity. Failure to monitor for these complications is a deviation in the standard of care.

Compartment Syndrome is an area in the body where the muscles, nerves and blood supply are encompassed within tissue such as bone or fascia. High pressure from inflammation builds up in the muscle compartment space and results in reduced capillary blood perfusion which falls below a level necessary for tissue viability.

Treatment is emergent and consists of releasing the pressure by loosening of bandage, splitting of a cast or surgical intervention involving cutting the fascia to release pressure. These measures are considered limb saving procedures.

Cauda Equina Syndrome is a disorder affecting the bundle of nerve roots (cauda equina) at the lower (lumbar) end of the spinal cord. These nerves send and receive messages to and from the lower limbs and pelvic organs. Evidence of damage to the cauda equina includes:

- Bladder and /or bowel dysfunction
- Severe or progressive problems in the lower extremities, including loss or altered sensation between the legs, the inner thighs and back of the legs (saddle area), and feet/heels.
- Pain, numbness, or weakness spreading to one or both legs that may cause an

individual to stumble or have difficulty getting up from a chair.

Personal Nerve Palsy is injury to the peroneal nerve which runs along the back of the calf of the leg. Injury to this nerve results in loss of capacity to dorsiflex the foot (point the toes upward). This results in “foot drop” or difficulty walking because the foot drags the ground. A foot orthotic splint may be required to assist in walking.

Deep vein thrombosis/Pulmonary embolism is considered the most common orthopedic complication. Deep vein thrombosis is a blood clot in a deep vein, most commonly a leg vein. Symptoms include pain, swelling and redness of the affected leg. Primary preventive measures include compression stocking, sequential compression hose and anticoagulant therapy.

If a blood clot breaks free in the leg and travels in the blood stream it will likely be trapped in the tiny blood veins in the lungs, known as a **pulmonary embolus**. Symptoms include shortness of breath, rapid breathing, anxiety, restlessness, decreased oxygen saturation and feeling of impending doom or death.

Orthopedic standards of care require assessment of neurovascular status at least every 4 hours in the acute phase and more often when ordered by the MD or if the condition of the patient changes.

Neurovascular assessment is evaluation of the 6 P’s: 1) pain – unremitting, increasing and unrelieved by medication, 2) pallor or loss of color, 3) paralysis or progressive loss of movement, 4) paresthesia or numbness, 5) pulselessness or absent pulse with doppler distal to the injury and 6) polar or cold extremity distal to the injury.