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Case No. 19 - Risks to the Sciatic Nerve Related to a Leg Lengthening Attempt in a Patient with Congenital Leg Shortening

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RISKS TO THE SCIATIC NERVE RELATED TO A LEG
LENGTHENING ATTEMPT IN A PATIENT WITH CONGENITAL
LEG SHORTENING

Mr. White, aged 54 and employed as a truck driver, visited with orthopedic surgeon Dr. Burton about a painful, arthritic hip. The history was that of a childhood injury to the hip, leading to growth plate damage, hip deformity, and a leg-length discrepancy of about an inch and a half with the affected leg shorter. The doctor planned a hip replacement, and documented that he would lengthen the leg to make both legs equal such that the patient would not need a shoe-lift. During informed consent, the usual risks of bleeding, death, nerve damage, and other complications were described to the patient.

The surgery went uneventfully, but the patient could not move his foot in the recovery room and the entire leg had a burning sensation. The surgeon diagnosed a sciatic nerve injury. After ruling out the possibility of an acute bleed compressing the nerve, Dr. Burton believed that he had stretched the nerve. The patient was taken back to surgery, implants were removed, and the limb was returned to the original length, with new total hip components. The patient recovered from surgery, but the sciatic nerve palsy was permanent.

Dr. Burton perceived that the patient had suffered a known, expected risk of hip replacement surgery. He had stretched the leg to help the patient, and the one inch lengthening was within safe limits and that the nerve injury was unrelated to the initial attempt to equalize leg lengths. Yet Dr. Burton had not obtained limb measurements on special x-rays before the surgery and did not have any caliper to measure the extent of leg lengthening during surgery. Dr. Burton acknowledge that guessing at the amount of leg lengthening is prone to error, and it was possible that the leg was lengthened by more than an inch.

Also, this was a special case in that the hip injury occurred in childhood. Not only did the leg fail to grow to its normal length, but other structures around the hip such as the sciatic nerve, were congenitally shortened and never developed normally. This nuance raised the issue of not attempting any lengthening of the limb because even if a one inch lengthening is safe in ordinary patients, it can be fraught with risk in a patient in whom the leg failed to grow to its proper length due to a childhood injury to the hip growth plate.