Medical School
McMaster University (Hamilton, Canada)

Residency
University of Toronto (Toronto, Canada)

Fellowships
Orthopedic Trauma. Harborview Medical Center (Seattle, WA)

Limb Lengthening and Complex Reconstruction. Hospital for Special Surgery (New York, NY)

Certification
American Board of Orthopaedic Surgery - Board Eligible

Fellow of the Royal College of Surgeons of Canada

MultiCare Orthopedics & Sports Medicine - Tacoma General

315 Martin Luther King Jr. Way, Third Floor (Philip Pavilion), Tacoma, WA 98405

Phone: 253-792-6555
Fax:

David Burns, MD

Orthopedic Surgeon, Limb-lengthening specialist

David Burns, MD, PhD is an orthopedic surgeon with dual fellowship training in orthopedic trauma and complex limb reconstruction. He specializes in the treatment of fractures, post-traumatic reconstruction, limb salvage, deformity correction, limb lengthening, and limb replacement surgery.

Dr. Burns surgical expertise specifically includes:

- Trauma
  - Upper extremity fracture repair excluding hand (clavicle, scapula, shoulder, humerus, elbow, forearm, radius, ulna, olecranon)
  - Lower extremity fracture repair excluding hand (hip, femur, thigh, knee, patella, tibial plateau, tibia, fibula, ankle, foot, calcaneus, talus)
  - Pelvis and acetabular fracture repair
  - Major tendon repair (achilles, distal biceps, patella tendon, quadriceps tendon)
  - Mal-union and non-union repair
  - Treatment of bone defects
  - Treatment of osteomyelitis and fracture related infection
  - Complex post-traumatic reconstruction
  - Limb salvage
- Limb reconstruction
  - Correction of congenital and acquired deformity for adults and children
    - knock knee
    - bow leg
    - rotational deformity
    - Upper and lower limb length discrepancy
    - Guided growth
  - Joint preservation surgery for the knee and ankle (osteotomies, hinged ankle distraction)
  - Arthrodesis (joint fusion)
  - Hexapod ring external fixators (Ilizarov reconstruction)
  - Stature lengthening
  - Treatment of lower extremity joint contractures
  - Osseointegration amputation reconstruction (non-vascular amputees e.g. traumatic amputees)

How to refer patients to Dr. Burns:

EPIC users may refer to: **MC ORTHO AND SPORTS MED**

- Outside referrals, fax to 253-864-2966 or call 253-792-6555
- Most insurance plans accepted. Prior authorization needed for TriCare, United Healthcare NPN and US Family Plans.

FAQ - Osseointegration

- **What Is osseointegration?**
  Osseointegration (OI) or limb replacement surgery is a reconstructive option for patients with upper or lower extremity amputations that would replace a traditional socket mounted prosthetic. Instead of a socket, the prosthesis connects to a metal implant that protrudes out the skin and is anchored directly to the bone.
- **What are the benefits of osseointegration?**
  Having a direct skeletal connection between the patient and their prosthetic eliminates many of the problems with traditional sockets like pain, skin problems, long don/doff times, and poor fit. More importantly, an OI prosthetic lets the patient feel the ground underneath them and achieve higher levels of function. The prosthetic becomes a part of the patient rather than something worn.
- **Who Is a good candidate?**
  Non-vascular amputees of the upper and lower extremities are candidates. The surgery can be done to revise an existing amputation or at the initial time of amputation.

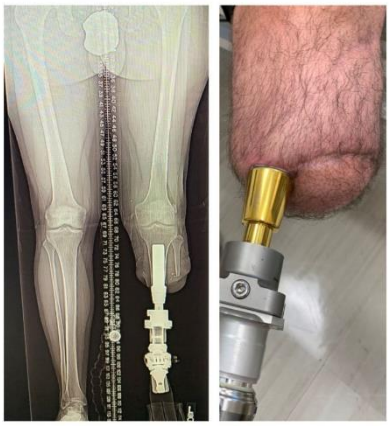

Photo captions
Left: X-ray of tibial osseointegration
Right: Clinical photograph of tibial osseointegration

FAQ - Limb lengthening

- **How do you lengthen a bone?**
  An osteotomy is used to break the bone, and a telescoping rod is inserted into the bone canal. The body then begins to heal the osteotomy like any fracture, and after an initial resting period, the bone is lengthened gradually using the telescoping rod which is controlled by a magnet external to the body. New normal bone is formed in the distraction gap resulting in a longer limb.
- **Who Is a good candidate?**
  Patients with symptomatic leg or arm length discrepancy and those seeking stature lengthening are candidates.
- **What Is the maximum height that can be achieved and how long does it take?**
  The legs can be lengthened up to a maximum of 5 inches, which is divided between the femur and tibia. The maximum rate of lengthening is 1mm/day. Larger multi-stage lengthenings are possible for patients with very large discrepancies.
- **What Is the pain level experienced during the procedure and rehabilitation?**
  The lengthening is gradual and typically well tolerated. We expect patients to be off narcotics by 2 weeks after the initial surgery. Stretching exercises are required multiple times per day during the lengthening process to avoid joint stiffness.

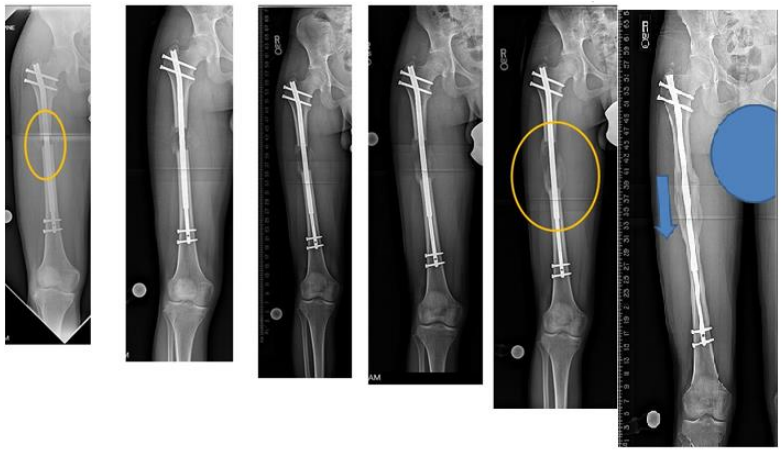

Photo caption - This series of x-rays demonstrates the progression of 8 cm (3.15 inch) femoral lengthening using an internal lengthening nail. On the right, new bone is seen bridging the distraction gap.