Orthotics & Prosthetics

Family Medicine Education Conference
October 4th, 2017
Lansing MI

Orthotist

• The Orthotist designs, fabricates and fits custom made orthopedic braces or orthoses and fits pre-fabricated devices and provides related patient care.
• Education and Experience to become an Orthotist:
  • An US Board Certified Orthotist must pass a certification exam after successfully completing a Master’s Degree in Orthotics and successful completion of residency.
  • Graduates will have the CO designation.

Prosthetist

• A Prosthetist designs, fabricates and fits custom made prostheses and provides related patient care.
• Education and Experience:
  • An US Board Certified Prosthetist must pass a certification exam after successfully completing a Master’s Degree in Prosthetics and successful completion of residency.
  • Graduates will have the CP designation
  • Graduates that complete both programs will be designated as CPO’s.
General Concepts of Orthotics & Prosthetics

• Immobilize
• Increase Range of Motion
• Protect and Return to Activity
• Return to ADL’s

Foot and Ankle

• Diabetic Shoes
• Cam Boots
• Custom Foot Orthotics
• Various Ankle Braces
  • ASO’s
  • Air Stirrups
  • AFO’s
  • SMR’s
  • Plantar Fasciitis Splints

Diabetic Shoes

• Diabetic shoes are specifically designed to redistribute plantar pressure points of the feet reducing the potential for ulcer complications.
• Diabetic shoes are deeper and wider than normal shoes to allow for custom insoles to prevent pinching of the toes.
• Most shoes are designed with soft leather uppers to allow for breathability and stretching.
• The insoles are constructed of resilient, cushioning materials and can be removed for pressure relief modifications.
• Incorporation of a rocker bottom sole is sometimes recommended to reduce the stress on the distal plantar surface of the foot during ambulation.
Diabetic Shoes

• Indications for Use:
  • Diabetic Neuropathy
  • Ulcers
  • Toe Deformities
  • Partial foot amputations
  • Charcot Arthropathy

Diabetic Shoes

• Paperwork and documentation
  • Statement of Certifying Physician or Diabetic Shoe Form can only be signed by an MD or DO
  • For patients being seen by a DPM, CMS Guidelines require that the Physician treating the patient for diabetes either co-signs or provides signed medical records supporting the Statement of Certifying Physician.
  • Dates must match on both notes or notes can be signed prior to but not dated after the Certifying Shoe form.
Cam Walker

- A Cam walker is a specialized, off-the-shelf orthosis designed with an injection molded foot shell incorporating a rocker bottom sole, adjustable range of motion ankle joints with medial-lateral malleable metal uprights attached to a neoprene type of calf wrap with Velcro Closures.
- Available in various sizes
- Variations include both static and adjustable ROM ankle joints
- Available with or without a pneumatic air bladder.

Cam Walker

- Indications for Use:
  - Achilles Tendon tears
  - Plantar Fasciitis tears
  - Stress Fractures
  - Forefoot and Toe injuries
  - Ankle Sprains
  - Ankle Fractures

Custom Foot Orthotics

- Designed to improve the structural integrity of the foot.
- Custom foot orthotics are categorized by their rigidity:
  - Rigid – made of thermoplastics, rigid acrylic thermosetting plastics, fiberglass and carbon graphite.
  - Semi Rigid – made from cork, leather, plastic, foam and rubber materials.
  - Soft – open and closed cell foam and rubber material.
Custom Foot Orthotics

- Indications for use:
  - Forefoot inversion and eversion
  - Subtalar joint varus and valgus
  - Arthritis
  - Diabetes
  - Blisters/calluses
  - Foot ulcers
  - Charcot joint
  - Morton’s neuroma
  - Plantar fasciitis
  - Shin splints
  - Stress fractures

Ankle Support Orthosis (ASO)

- Designed to provide medial-lateral support during stance phase.
- Many different type of ASO's.
  - Simple lace up braces
  - Pneumatic Air Splints
  - Custom molded thermoplastics
- Selection of ASO is dependent upon stabilization required and activity level of the patient/athlete.

Ankle Support Orthosis (ASO)

- Indications for Use:
  - Ankle Instability
  - Avulsion fractures
  - Sprains
  - Inversion-eversion control
  - Minor fractures of the foot and ankle
  - Protection of the foot and ankle during activity
AFO (Ankle Foot Orthosis)
- Designed for patients with gait deviations and foot and ankle deformities relating to muscle weakness, contractures or alignment abnormalities.
- Can be fabricated in carbon, thermoplastic or metal.
- Can be fabricated with or without ankle joints. (articulating or non-articulating).

AFO (Ankle Foot Orthosis)
- Indications for Use:
  - CVA
  - Cerebral Palsy
  - Muscular Dystrophy
  - Spinal Bifida
  - Diabetic Charcot Foot
  - Contractures
  - Burns
  - Drop Foot

Supra Malleolar Orthosis (SMO)
- Designed for the pediatric foot.
- Controls internal rotary deformity, pronation and or flat foot in children with low tone.
- Improves balance and coordination while allowing for range of motion in the sagittal plane.
Plantar Fasciitis Splint (Night Splint)

- Known as a resting splint as they are only worn during periods of rest or while sleeping.
- Can be static progressive or dynamic.
- Used to provide stretch to the plantar fascia and Achilles tendon.
- Indications for Use:
  - Plantar Fasciitis
  - Achilles Tendonitis
  - Heel Spurs

Knee Orthosis

- Knee Patella Supports
- Knee Immobilizers
- ACL/PCL Braces
- OA Knee bracing
- MCL/LCL bracing

Knee Patella Supports

- Provide medial and lateral ligament support
- Available in numerous designs such as:
  - Simple pull up neoprene sleeve
  - Wrap around knee braces
  - Sleeves that contain rigid metal stays and articulating knee joints

*** To qualify for insurance reimbursement, a knee brace must a hinge.***
Knee Patella Supports

- Indications for Use:
  - Jumper's knee
  - Osgood-Schlatter's Disease
  - Patellar Tendonitis
  - Patellar Subluxation – medial or lateral
  - Anterior knee pain
  - MCL/LCL Sprains
  - Mild Hyperextension Sprains

OA Knee Bracing

- May help reduce pain by shifting the weight off of the most damaged portion of knee in either the medial or lateral compartment.
- Many different Selection Considerations:
  - 3–point
  - 4–point
  - Medial
  - Lateral
  - Push
  - Pull

Knee Immobilizers

- Designed to restrict knee motion in the medial/lateral and flexion/extension planes of motion.
- Indications for Use:
  - Post-Op rehab
  - Medial/lateral ligament
  - Post fracture management
ACL/PCL Brace

• Designed to provide angular control of flexion-extension and mediolateral planes, in addition to controlling axial rotation.
• Available as a sleeve but more commonly they are customized carbon-fiber frames.

Prosthetics

• Prosthetics:
  • Shrinkers
  • Socks

• Shrinkers:
  • Prosthetic shrinkers are used to control the volume and promote shrinkage in both transtibial and transfemoral amputations.
  • Shrinkers are easily managed by the patient and in both the hospital and at home.
  • Shrinkers can be applied at any time in the patients rehabilitation.
Prosthetics

- Flo-Tech/APOP System
  - The Flo-Tech/APOP system (Adjustable Post Operative Prosthesis) is a prefabricated, plastic bivalve socket that is designed to protect the residual limb and prevent a flexion contracture at the knee.
  - Applied by the prosthetist and easily managed by the patient.
  - Not designed to control volume, but can be used with a shrinker for shaping the limb.

Prosthetics

- Rigid Dressing:
  - Rigid Dressings are used to control volume, promote shrinkage and protect the transtibial residual limb.
  - The rigid dressing is custom made and placed over the residual limb by the prosthetist.

Summary

- Top reasons for a script being returned:
  - Doctor's location is not correctly added to script.
  - Duration of need is not included.
  - Missing Diagnosis or diagnosis being too vague, i.e, pain.
  - Item requested being too vague, i.e back brace, knee brace, etc.
Summary

- **Requirements for all prescriptions:**
  - Patient Name
  - Date of Birth
  - Contact number for patient (dependent of insurance coverage)
  - Description of Item
  - Physician Name
  - Physician Address
  - Physician Phone Number
  - Physician Signature & Date
  - Duration of Need (in months)
  - Diagnosis including ICD-10 Code

Summary

- **Additional Notes:**
  - For Stockings: Number of hours to be worn
  - If RX is hand signed, must be hand dated. If electronically signed then it must be electronically dated.
  - A DWO (detailed written order) may be required for custom bracing, diabetic shoes and stockings dependent on the requirements of the insurance carrier.
  - Some insurance companies require each item (knee brace, condylar pads, soft interface above knee, soft interface below knee, etc.) to appear as a line item. This will be populated by our office on a DWO and returned to you, the provider for a signature/date.

THANK YOU

Questions???

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