Understanding Your Written Exam Results

If you received your test results for the Prosthetist Orthotist Written Exam only to learn that you did not pass the exam, the following information may help you focus your study for retaking the exam. Your test results notice indicates your score in each Content Domain along with the maximum score in each area. We recommend that you focus your exam study on those Content Domains where you performed the weakest. Below, along with a description of the Content Domain, are sample questions to help you determine the types of questions that you may have missed.

Prosthetic Exam Questions

Patient Evaluation

Take a comprehensive patient history, including previous use of a prosthesis, diagnosis, work history, avocational activities, signs and symptoms and medical history. Perform a diagnosis-specific functional clinical examination of sensory function, range of motion, joint stability and skin integrity. Utilize knowledge of anatomy, muscle functions, normal gait parameters, pathologies, related surgical techniques and disease processes to guide assessment. Refer patient to other health care providers for intervention beyond orthotic/prosthetic scope of practice.

A trendelenburg gait occurs with weakness of the:

1. **Gluteus medius**
2. Gluteus maximus
3. Adductor magnus
4. Rectus femoris

In normal gait the hip reaches maximum flexion during:

1. Loading response
2. **Initial contact**
3. Midstance
4. Mid swing

An amputation that removes the midfoot and forefoot saving the talus and calcaneus is called a:

1. Modified Symes
2. Lisfranc
3. **Chopart**
4. Transmetatarsal

Which of the following muscles are transected in a transmetatarsal amputation?

1. Peroneus longus
2. **Extensor hallicus longus**
3. Tibialis posterior
4. Tibialis anterior

Which of the following is the primary flexor of the elbow?

1. Biceps brachii
2. Brachioradialis
3. Anconeus
4. **Brachialis**

The most common congenital absence of a long bone in the extremities is:

1. **Fibular hemimelia**
2. Proximal Focal Femoral Deficiency
3. Congenital hypoplasia of the Tibia
4. Tibial phocomelia

Formulation of the Treatment Plan

Evaluate the findings to determine a prosthetic treatment plan. Consult with physician/referral source/appropriately licensed health care provider to modify, if necessary, the original prescription and/or treatment plan. Identify design, materials and components to support treatment plan, including how the prosthesis will address the specific functional needs.

Which amputation level is MOST likely to develop an equinus contracture?

1. **Chopart**
2. Lisfranc
3. Symes
4. Transmetatarsal

Which of the following is considered a pressure tolerant area on a transtibial residual limb?

1. Tibial crest
2. **Medial tibial flare**
3. Fibular head
4. Tibial condyle

One advantage of a knee disarticulation amputation is:

1. The ability to maintain rotational control of the socket
2. **The ability to bear weight on the distal end**
3. The ability to match knee center on the sound side
4. The ability to provide good cosmesis with the prosthesis

The most appropriate control system for a patient with a self-suspending transradial prosthesis would be a:

1. Figure 8 harness with cross-back strap
2. Figure 8 harness with flexible elbow hinges
3. **Figure 9 harness with single control cable**
4. Figure 9 harness with chest strap

Implementation of the Treatment Plan

Select appropriate materials/techniques in order to obtain a patient model/image. Select appropriate materials and components for prosthesis based on patient criteria to ensure optimum strength, durability and function. Complete or delegate fabrication of prosthesis including positive mold rectification. Assess/align prosthesis for accuracy in sagittal, transverse and coronal planes in order to provide maximum function/comfort. Educate patient and/or caregiver about the use and maintenance of the prosthesis. Documentation using established record-keeping techniques to verify implementation of treatment plan.

What anatomical landmark is used when establishing the height of a transtibial prosthesis?

1. Fibular head
2. **Medial tibial plateau**
3. Tibial condyle
4. Adductor tubercle

During the initial dynamic alignment of a transfemoral prosthesis with an ischial containment socket you note a lateral shift of the socket during midstance. What is the most likely cause?

1. **Lack of ischial containment**
2. Foot is too far outset
3. A/P dimension is too large
4. Prosthesis is too short

Flexible elbow hinges on a long transradial residual limb prosthesis allow for rotation and:

1. Provide M/L stability
2. Limit elbow extension
3. Limit elbow flexion
4. **Provide suspension**

The length of the forearm section of a transradial prosthesis is determined by measuring the sound side from the:

1. Acromion to thumb tip
2. Acromion to lateral epicondyle
3. **Lateral epicondyle to ulnar styloid**
4. Olecranon to thumb tip

When establishing the static alignment for a transfemoral prosthesis with a microprocessor hydraulic knee component, the TKA line should be:

1. Through the mechanical knee joint axis
2. 0-5mm anterior to the mechanical knee joint axis
3. **0-5mm posterior to the mechanical knee joint axis**
4. 5-10mm posterior to the mechanical knee joint axis

During the initial dynamic alignment of a transtibial prosthesis there is an excessive varus moment at midstance. This can be resolved by:

1. **Increasing the adduction of the socket**
2. Increasing the abduction of the socket
3. Insetting the foot
4. Externally rotating the foot

Continuation of the Treatment Plan

Obtain feedback from patient and/or caregiver to evaluate outcome (e.g., wear schedule/tolerance, comfort, ability to don and doff, proper usage and function. Assess patient's function and note any changes. Assess fit of prosthesis with regard to strategic contact and to anatomical relationships to prosthesis to determine need for changes relative to initial treatment goals. Address evidence of excessive skin pressures or lack of corrective forces and formulate plan to modify prosthesis accordingly. Revise treatment plan based on assessment of outcomes.

At a follow-up visit for a patient who was fit with a body powered transhumeral prosthesis, they complain that they are not able to open the terminal device with the elbow fully flexed. One possible solution to this problem is to:

1. **Add a cross back strap to the harness**
2. Add an elbow flexion assist component
3. Add additional rubber bands to the terminal device
4. Tighten the control attachment strap

A patient is seen for follow-up for their PTB-SC prosthesis with pelite liner. The alignment of the prosthesis is good, however the patient states that the socket feels less secure recently and you note a gap between the socket and their limb at the lateral proximal brim. What is the MOST appropriate adjustment to address this problem?

1. Increase the thickness of the liner at the lateral proximal aspect
2. **Increase the thickness of the liner at the medial proximal aspect**
3. Increase sock ply thickness
4. Add padding to the medial tibial flare

A patient is seen for an initial follow-up after receiving a transfemoral prosthesis. They are ambulating with an abducted gait. What is the MOST likely prosthetic cause?

1. Prosthesis is too short
2. Foot is too inset
3. **Prosthesis is too long**
4. Knee flexion resistance is too strong

A patient who has missed multiple follow-up appointments for their transtibial prosthesis is seen. The patient has been noncompliant with hygiene instructions and has developed a Wagner Grade 2 ulcer on the anterior distal end of their residual limb. The practitioner's PRIMARY responsibility at this time is to:

1. Modify the prosthesis and suggest the patient follow-up with their physician
2. Modify the prosthesis and schedule a two-week follow-up appointment
3. Inform the patient to take a break from using the prosthesis and follow-up in two weeks
4. **Instruct the patient to discontinue use of the prosthesis and notify the physician**

Orthotic Exam Questions

Patient Evaluation

Take a comprehensive patient history, including previous use of an orthosis, diagnosis, work history, avocational activities, signs and symptoms and medical history. Perform a diagnosis-specific functional clinical examination of sensory function, range of motion, joint stability and skin integrity. Utilize knowledge of anatomy, muscle functions, normal gait parameters, pathologies, related surgical techniques and disease processes to guide assessment. Refer patient to other health care providers for intervention beyond orthotic/prosthetic scope of practice.

The functions of the tibialis posterior muscle are:

1. **Plantar flexion and inversion**
2. Plantar flexion and eversion
3. Dorsiflexion and inversion
4. Dorsiflexion and eversion

The distal aspect of the tibia articulates with the:

1. Calcaneus and fibula
2. Calcaneus and talus
3. **Talus and fibula**
4. Talus and navicular

Anterior compression fractures of the spine involve the:

1. Posterior column
2. **Anterior column**
3. Middle column
4. Anterior and posterior columns

Which of the following has its insertion at the adductor tubercle?

1. Adductor longus
2. Adductor brevis
3. Semitendinosis
4. **Adductor magnus**

At initial contact the body weight line is:

1. Anterior to the ankle and posterior to the knee
2. Posterior to the ankle and posterior to the knee
3. **Posterior to the ankle and anterior to the knee**
4. Anterior to the ankle and anterior to the knee

The congenital abnormality of the spine in which one side of the vertebra is incompletely developed is:

1. **Hemivertebra**
2. Spina bifida
3. Spondylolysis
4. Klippel-Feil syndrome

Formulation of the Treatment Plan

Evaluate the findings to determine an orthotic treatment plan. Consult with physician/referral source/appropriately licensed health care provider to modify, if necessary, the original prescription and/or treatment plan. Identify design, materials and components to support treatment plan, including how the orthosis will address the specific functional needs. Implementation of the Treatment Plan Select appropriate materials/techniques in order to obtain a patient model/ image. Select appropriate materials and components for orthosis based on patient criteria to ensure optimum strength, durability and function. Complete or delegate fabrication of orthosis including positive mold rectification. Assess/align orthosis for accuracy in sagittal, transverse and coronal planes in order to provide maximum function/comfort. Educate patient and/or caregiver about the use and maintenance of the orthosis. Documentation using established record- keeping techniques to verify implementation of treatment plan.

The C-bar on a hand orthosis acts as a:

1. Thumb flexion stop
2. **Thumb adduction stop**
3. Thumb extension stop
4. Thumb flexion assist

When designing a thermoplastic solid-ankle AFO, trimming the footplate proximal to the metatarsal heads will MOSTLY effect:

1. **The third rocker**
2. The second rocker
3. The first rocker
4. Midstance

Which of the following ankle joint configurations would be the MOST appropriate for a patient with Fair (2/5) plantar flexion strength and Good (4/5) dorsiflexion strength?

1. Double adjustable with anterior springs/posterior pins
2. Double adjustable with anterior springs/posterior springs
3. **Double adjustable with anterior pins/posterior springs**
4. Double adjustable with anterior pins/posterior pins

The PRIMARY goal of a corrective scoliosis orthosis in the treatment of moderate adolescent idiopathic scoliosis is:

1. Reduction of pain
2. **Preventing progression of the curve(s)**
3. Permanent correction of the curve(s)
4. Creation of shoulder and pelvic symmetry

Implementation of the Treatment Plan

Select appropriate materials/techniques in order to obtain a patient model/image. Select appropriate materials and components for orthosis based on patient criteria to ensure optimum strength, durability and function. Complete or delegate fabrication of orthosis including positive mold rectification. Assess/align orthosis for accuracy in sagittal, transverse and coronal planes in order to provide maximum function/comfort. Educate patient and/or caregiver about the use and maintenance of the orthosis. Documentation using established record-keeping techniques to verify implementation of treatment plan.

The main functional goal of posterior off-set unlocked knee joints is to:

1. Control genu recurvatum
2. Control genu varus
3. **Provide increased stability during stance**
4. Prevent the knee from buckling at initial contact

When fabricating a thermoplastic articulated AFO, the mechanical ankle joints should be placed at the level of the:

1. Apex of the lateral malleolus
2. Apex of the medial malleolus
3. **Distal border of the medial malleolus**
4. Distal border of the lateral malleolus

While fitting a ground reaction AFO you observe good control of the patient's knee in the sagittal plane however the patient complains they are having difficulty initiating swing on the side with the orthosis. The MOST appropriate modification to address this would be to:

1. Trim the footplate to end proximal to the metatarsal heads
2. Lower the superior anterior trimlines
3. Reduce the ankle trimlines to bisect the malleoli
4. **Add a ¼" heel wedge underneath the AFO**

A patient is experiencing recurrent positional posterior dislocation after hip replacement surgery. The PRIMARY goal of a hip abduction orthosis is to block:

1. **Hip flexion**
2. Hip extension
3. Hip abduction
4. Hip external rotation

The standard lateral inferior trimline for a single piece anterior opening custom LSO is:

1. 4 cm (1 1/2") superior to the greater trochanter
2. **2 cm (3/4") superior to the greater trochanter**
3. 2 cm (3/4") inferior to the greater trochanter
4. At the level of the greater trochanter

During the casting of an ambulatory child with cerebral palsy for custom bilateral solid ankle AFOs you note that the right side lacks dorsiflexion range of motion (-5°) with the knee extended. The MOST appropriate way to address this is to:

1. **Cast in -5° of dorsiflexion and plan to add an external heel wedge**
2. Cast in -5° of dorsiflexion and plan to cut the cast and place it in neutral
3. Cast in neutral with the knee maximally flexed
4. Cast in -5° of dorsiflexion and plan to add a rocker sole on the right shoe

Continuation of the Treatment Plan

Obtain feedback from patient and/or caregiver to evaluate outcome (e.g., wear schedule/tolerance, comfort, ability to don and doff, proper usage and function. Assess patient's function and note any changes. Assess fit of orthosis with regard to strategic contact and to anatomical relationships to orthosis to determine need for changes relative to initial treatment goals. Address evidence of excessive skin pressures or lack of corrective forces and formulate plan to modify orthosis accordingly. Revise treatment plan based on assessment of outcomes.

At a follow-up visit for a patient who was fit with bilateral solid ankle AFOs you note redness at the navicular on the right side. What modifications should you make to the AFO?

1. **Add an ST pad and padding just superior to the medial malleolus**
2. Add an ST pad and padding just superior to the lateral malleolus
3. Add padding to the navicular area
4. Reduce the trimline to below the navicular

A patient was fit with a pair of custom semi-rigid foot orthoses two weeks ago. They are now complaining of discomfort on the plantar aspect of their feet just proximal to the 1st metatarsal heads. The MOST likely cause of this problem is:

1. Lack of relief for the 1st metatarsal heads
2. **Lack of relief for the flexor hallicus longus tendons**
3. The modifications of the peroneal arches are too aggressive
4. The base materials are too rigid

A patient with positional plagiocephaly has been wearing a custom cranial remolding orthosis for the past eight months. The patient is now 15 months old and has outgrown the orthosis. The practitioner should expect the physician will:

1. Request that a new orthosis be fabricated
2. Order an x-ray to determine whether the child still needs the orthosis
3. **Discontinue orthotic treatment since the child's head growth has plateaued**
4. Have the child begin wearing the orthosis only at night

You are seeing a patient who has recently relocated to the area. They are currently wearing a Cruciform Anterior Stabilization Hyperextension (CASH) orthosis. The patient states they cannot tolerate the orthosis due to pressure on an ostomy which is located at the midline of their abdomen, superior to their umbilicus. What is the BEST option to address this problem?

1. Inform the patient they need to decrease the tightness of the closure
2. Add padding to the sternal attachment
3. Heat and flare the pubic attachment
4. **Suggest switching to a Jewett style orthosis**

Practice Management

Adhere to policies and procedures in compliance with all applicable federal and state laws and regulations and professional and ethical guidelines (e.g., CMS, HIPAA, FDA, ADA, OSHA, ABC Code of Professional Responsibility).

After providing a device to a Medicare beneficiary, the practitioner must provide any adjustments or repairs without charge for:

1. **90 days**
2. 60 days
3. 30 days
4. 120 days

The rules relating to the safe use of potentially hazardous materials in the fabrication of orthoses are under the jurisdiction of the:

1. Health Insurance Portability and Accountability Act
2. Durable Medical Equipment Medical Administrative Contractor
3. **Occupational Safety and Health Administration**
4. Centers for Medicare and Medicaid Services

The rules relating to the safe use of potentially hazardous Infection control practices used to prevent transmission of diseases that can be acquired by contact with blood, body fluids, non-intact skin and mucous membranes are referred to as:

1. Contact Isolation
2. **Standard Precautions**
3. Sterile Technique
4. Biohazardous Waste Program

If the practitioner's facility is designated as a Participating Supplier, this means that:

1. **You must accept the Medicare allowable amount as payment in full**
2. You do not have to accept the Medicare allowable amount as payment in full
3. You can only collect 80% of the Medicare allowable amount from the patient
4. There is no limit on what you are allowed to charge a Medicare beneficiary

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These sample questions are only examples of the type of test content you will see in the exam. For additional information about how to prepare for the exam, check out the *Practice Analysis Resident Guide*. Access all the Practitioner Exam Prep resources available on **ABCop.org**.
