

GLOSSARY OF PROSTHETIC RELATED TERMS

Abbreviations for types of amputations

AE - Above Elbow
AK – Above Knee
BE – Below Elbow
BK – Below Knee
HD – Hip Disarticulation
KD – Knee Disarticulation
SD – Shoulder Disarticulation
TK – Through Knee
WD – Wrist Disarticulation



Direction of motion

Anterior – front
Posterior – back
Lateral – towards the outside
Medial – towards the inside
Superior – towards the head
Abduction – away from midline
Adduction – towards midline
Inferior – towards the feet
Valgus – knock kneed position
Varus – bow legged position

Socket types

Below Knee - Patella Tendon Bearing (PTB)
Total Contact: silicone liner
Above Knee - quadrilateral
Ischial containment

DEFINITIONS

Abduction: Motion of the body part away from the mid-line of the body.

ACA: Amputee Coalition of America. The Amputee Coalition of America (ACA) is a national, non-profit amputee consumer educational organization representing people who have experienced amputation or are born with limb differences. The ACA includes individual amputees, amputee education and support groups for amputees, professionals, family members and friends of amputees, amputation or limb loss related agencies, and organizations.



Adduction: Motion of body part toward the midline of the body

A/K: Above knee (transfemoral)

Adherent Scar Tissue: Scar tissue formed in the healing process that sticks to underlying tissue such as muscle, fascia, or bone.

Adherent scar tissue: Tissue stuck down, usually to bone.

Alignment: position of prosthetic socket in relation to foot and knee

AE: Above elbow. Also referred to as transhumeral.

AAOP: American Academy of Orthotists and Prosthetists, A professional society of ABC board certified practitioners. Founded 1970



ABC: American Board for Certification in Orthotics and Prosthetics, A certification board for individuals and facilities providing orthotic and prosthetic services. Established 1948



American Orthotic and Prosthetic Association (AOPA): a national trade association dedicated to upholding standards of quality patient care. AOPA represents more than 1,200 member companies



Americans with Disabilities Act: Enacted July 26, 1990, it provides comprehensive civil right protections to individuals with disabilities in the areas of employment, public accommodations, state and local services and telecommunications.

Acquired Amputation: Limbs surgically removed due to disease or trauma generally diabetic/vascular, cancer, bone infection, non-union of fractures, or trauma.

Anterior: Front

Architectural Barrier: Stairs, ramps, curbs, or anything that obstructs your walking or wheelchair mobility,

Atrophy: A wasting of tissues; the decrease in size of a normally developed extremity or organ.

BE: Below elbow. Also referred to as transradial

Bilateral: A double amputee. Both legs or both arms as in Bilateral BK etc.

BK: Below knee. Also referred to as transtibial.

Body Image: The awareness and perception of one's own body related to both appearance and function.

Body-Powered Prosthetics: A prosthesis that usually employs a harness for two purposes: suspension and control. Through relative body motion, the amputee is able to generate tension in a control cable. By routing the cable, the tension can be transmitted to the prosthesis where it can generate the desired effect.

C-leg: The Otto Bock 3c100 C-leg a computer assisted AK prosthesis. The knee unit uses a microchip to regulate the flow of hydraulic fluid which controls the bending motion of the knee. The C-leg system includes a strain pylon that senses weight and position providing information about the amputee's gait to the microprocessor.



CAD-CAM: Computer aided design, computer aided manufacture. In prosthetics, a method of producing and modifying prosthetic models and sockets.

Cadence response: A type of prosthetic knee control which varies automatically with walking speed -- usually achieved with hydraulic or pneumatic knee units.

CAT-CAM: Contoured Adducted Trochanteric - Controlled Alignment Method. An ischial-containment above-knee socket design defined by John Sabolich, CPO.

Carbon Fiber: The ultra-durable, aircraft-grade material used in energy-storing components

Certified Prosthetist (CP): The title of Certified Prosthetist (C.P.) is awarded to the practitioner who successfully completes the [board] examination in the discipline. The term for the practitioner who provides care to patients with partial or total absence of a limb by evaluating, designing, fabricating, fitting, and aligning devices known as prostheses. At the request of and in consultation with physicians, the certified prosthetist assists in formulation of prescriptions for prostheses, and examines and evaluates the patient's prosthetic needs in relation to their disease entity and functional loss. In providing the prostheses the prosthetist is responsible for: formulating its design, including selection measurements and model modification; performing fittings, including static and dynamic alignments; evaluating the prosthesis on the patient; instructing the patient in its use; and maintaining patient records; all in conformity with the prescription. The prosthetist is expected to keep abreast of new developments concerning prosthetic patient care, and is responsible for the functions and activities related to the development of prostheses.

Certified Prosthetist-Orthotist: The title of Certified Orthotist-Prosthetist (C.P.O.) is awarded to the practitioner who successfully completes the [board] examination in both disciplines.

Certification: A level of training that is verified by the appropriate professional organization. It is your proof that the practitioner has the required TECHNICAL training.

Check or test socket: A temporary socket, often transparent, made over the plaster model to aid in obtaining a proper fit. A successful test socket will then be remade into the definitive socket.

(Codes) L-Codes: procedure codes for orthotics and prosthetics developed through the efforts of HCFA (Health Care Financing Administration) and AOPA

Congenital amputee: Individual born missing a limb(s).

Congenital deficiency: condition present at birth, when all or part of a limb fails to develop normally.

Contracture: Tightening of muscles around a joint that restricts the range of motion of that joint.

Contralateral: Occurring on or acting in conjunction with a part on the opposite side of the body.

Cosmesis: Used to describe the outer, aesthetic covering of prosthesis. Refers to appearance of the prosthesis.

Debride: A term for the removal of necrotic, infected, or foreign material from a wound.

Definitive, or "permanent" prosthesis: A replacement for a missing limb or part of a limb which meets accepted check-out standards for comfort, fit, alignment, function, appearance, and durability.



Desensitization: The process of making the residual limb less sensitive to touch by massaging, tapping, or using a vibrator.

Disarticulation: An amputation through a joint, commonly the hip, shoulder, knee, elbow, or wrist.

Distal: The end of the residual limb. Farther from the central portion of the body. Opposite of proximal.

Donning and doffing: The act of putting on and taking off a prosthesis.



Forequarter Amputation (Interscapulthoracic): Amputation of the arm, shoulder, clavicle, and scapula.

Gait: The process of walking.

Gait Training: Learning how to walk with a prosthesis.



Hemi-pelvectomy - An amputation where approximately half the pelvic bone is removed.

Hip Disarticulation - Amputation of the entire leg from the hip.



IAOP: International Association of Orthotics and Prosthetics.

IPOP: “**Immediate Post Operative Prosthesis.**” A temporary prosthesis applied in the operating room immediately after the amputation.



Ischial containment socket: (SEE ischial tuberosity): The Ischial Containment socket cups the Ischial bone on the inside and back as well as the bottom to accomplish two things: 1) By cupping, or containing this bone inside the socket, the socket tends not to shift laterally (outside) when weight is put on it, making walking more efficient. This style of socket can have a very intimate fit and may take some time to get used to in order for it to become comfortable.



Ischial tuberosity: The bone that protrudes from the back of the pelvis (the "butt bone") that may get sore when sitting on a hard surface for extended periods of time.

KD: Knee disarticulation. Amputation through the knee joint

Kinesiology: The study of human motion.

L-Codes: Reimbursement codes used in the prosthetic/health care industry to identify what services and/or devices were provided.

Lamination: The process of permanently attaching the artificial limb to the socket using carbon fiber cloth and epoxy.

Lateral: To the side, away from the mid line of the body.

Liner: Suspension systems used to attach the prosthesis to the residual limb and/or provide additional comfort and protection of the residual limb. These liners may be made of silicon, or gel substances.



LE: Lower extremity.

Manual locking knee: device that locks the knee in complete extension to prevent buckling and falls. “walk stiff legged”

Medial: Toward the midline of the body.

Multiaxis foot: Allows inversion and eversion and rotation of the foot and is effective for walking on uneven surfaces.



Myoelectric: The prosthesis contains electrodes which are used to control the prosthesis via muscle contractions which in turn control a motor in the terminal device, wrist rotator or elbow. An attached battery pack provides the power system which translates the muscle contractions into movements of the prosthesis.

Myodesis: muscles anchored to end of bone.

Myoplasty: muscles anchored to opposing muscles.

NCOPE: National commission of Orthotic and Prosthetic Education

Neuroma: The end of a nerve left after amputation, which continues to grow in a cauliflower shape. Neuromas can be troublesome, especially when they are in places where they are subject to pressure from the prosthesis socket.

Normal Shape/Normal Alignment (NSNA): also know as a narrow ML socket: type of ischial containment socket. The sides, or medial/lateral measurement is tightened down to squeeze the residual limb, with most of the squeezing taking place on the outside or lateral side. This helps control the rotation of the socket by putting pressure along the fleshy area of the leg that can handle some side to side pressure.

Narrow M-L: type of ischial containment socket. An above-knee socket design which fits snugly against the femur and the ischial tuberosity to achieve socket stability. A term often used interchangeably with "ischial containment."

Occupational Therapy/OT: Teaching how to perform activities of daily living such as feeding, grooming, bathing, and dressing as independently as possible.

Orthosis: A device that is used to protect, support, or improve function of parts of the body that move. Orthoses is plural.

Orthotics: The profession of providing devices to support and straighten the body.

Partial foot amputation: An amputation on the front part of the foot; includes trans tarsal, chopart, pirgoff amputation levels.



Phantom Pain: Pain that seems to originate in the portion of the limb that was removed.

Phantom Sensation: The normal ghost image of the absent limb may feel normal at times and at other times be uncomfortable or painful.

Physiatrist: A doctor or rehabilitation medicine that specializes in the comprehensive management of patients with impairments and disabilities arising from neuromuscular, musculoskeletal and vascular disorders.

Physical therapy/PT: the evaluation and treatment of disease, injury or disability through the use of therapeutic exercises and modalities to strengthen muscles, improve range of motion and decrease pain.

Pistoning (or milking): the term used when your liner stretches resulting in your residual limb pulling in and out - like a piston.

Plantar: The bottom of the foot.

Ply: Thickness of stump sock material. The higher the ply the thicker the sock

Pneumatic/Hydraulic: fluid controlled knee joints which provide stability at all velocities/ speeds of gait

Polycentric: multiple-axis knee joint, particularly useful with a very long residual limb also possesses added knee stability over single axis knee joint.



Posterior: The back side of the body or part in question, i.e. posterior knee or patellar region.

Preparatory prosthesis: A functional prosthesis which is worn for a limited period of time to accelerate the rehabilitation process. It is generally without cosmetic finishing and is used to expedite prosthetic wear and use; it also aids in the evaluation of amputee adjustment and component selection.



Prosthesis: An artificial device used to replace an extremity that is partially or totally missing; commonly referred to as an artificial limb (plural is prostheses).

Prosthetics: A term derived from the Greek pros (in addition to), tithenai (to put) and tics (a systematic pursuit). Literally, prosthetics is the systematic pursuit of putting one thing (an artificial device) in addition to something else (a part of the body).

Prosthetist: A specialist in designing, fitting and fabricating artificial limbs.

PTB: Patellar-tendon-bearing. A below-knee socket design which achieves significant weight-bearing on the patellar tendon, just below the knee cap.



Pylon: The shaft which extends the length of a lower extremity artificial limb. It joins the socket to the prosthetic foot.

Quadrilateral socket: The Quad socket has a shelf about one inch wide on the posterior wall of the socket which the Ischial Tuberosity rests on . The Quad socket has four clearly defined sides.

Ramus: The front middle portion of the pubic bone palpated just above the genitals.

Range of Motion (ROM): The amount of movement a limb has in a specific direction at a specific joint such as your hip or knee.

Residual limb: the portion of the limb remaining after an amputation

Revision: Surgical modification of the residual stump.

Rigid dressing: A plaster wrap over the stump, usually applied in the operating or recovery room immediately following surgery, usually in below the knee amputations, for the purpose of controlling edema (swelling) and promote shrinkage and shaping of the residual limb in preparation for a prosthetic fitting.

SACH foot: Solid Ankle-Cushion Heel. A simple, non-jointed foot which achieves its action by compression of a rubber cushion at heel strike, followed by progression to a solid midfoot and a rubber toe.



Shock Pylon: A prosthetic pylon that dampens the vertical forces exerted on the residual limb and is used to cushion the impact when walking.



Shoulder Disarticulation (SD): Amputation through the shoulder joint.

Shuttle Lock: A mechanism that locks a pin attached to the distal end of a liner locking the residual limb into a socket.

Shrinker: A prosthetic reducer made of elastic material and designed to help control swelling of the residual limb and/or shrink it in preparation for a prosthetic fitting.

Social Worker: A professional who assists you by helping to coordinate your discharge from the hospital and oversees appropriate contact with other services or organizations. The social worker will help to facilitate your re-entry into family and community life.

Single axis foot: Used since the Civil War, this foot has an ankle hinge that provides dorsiflexion and planar flexion. i.e. , toe up & toe down.

Single axis knee: free swinging knee with small amount of friction.

Suction: provides suspension by means of negative pressure vacuum in a socket; achieved by forcing air out of the socket through a one-way valve when donning and using the prosthesis.

Supracondular suspension: A method of holding on a prosthesis by putting pressure on bony prominence above a joint, called “Condyles” femoral condyles for BK prosthesis humeral condyles for BE prosthesis

Swing phase of gait: prosthesis moving from full flexion to full extension

Symes: The style of amputation named after Dr. James Syme, who developed the surgical technique in 1842. It involves removing all bony elements of the foot while preserving the heel pad to facilitate full weight-bearing capacity

Terminal Device: Devices attached to the wrist unit of an upper extremity prosthesis that provides some aspect of the function (grasp, release, cosmesis, etc.).

TES Belt: A neoprene or Lycra suspension system for AK prostheses that has a ring that the prosthesis slides into. There is a neoprene belt that attaches around the waist by Velcro/hook and loop fasteners. Used to give added suspension of a prosthesis and/or control rotation.

Therapeutic Custom Shoe: A shoe designed and fabricated to address an individual’s medical condition. A therapeutic custom shoe is made over a modified positive model of an individual’s foot and can be either custom – molded or custom – made.

Total contact: An essential component of most prosthetic fittings, requiring contact between the limb and the prosthetic socket at all points, though not necessarily with uniform pressure.

Transfers: Moving from one position to another (such as from sitting on a bed to sitting in a wheelchair).

Transtarsal amputation: Through the tarsal (tarsus) or foot bones

TSB (Total surface bearing): A total contact fitting approach which attempts to achieve a uniform distribution of weight-bearing forces, usually with tissue compression

Unilateral: Affecting only one side.

Vascular Amputation: Amputation caused by lack of blood flow to a limb or limbs.

Voluntary – Closing Devices: Terminal Devices that are opened by body motion and closed by elastic bands or springs.

Wrist Disarticulation (WD): Amputation through the wrist.