

Terms relating to surgical implants —

Part 4: Glossary of orthopaedic surgical terms

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Foreword

This British Standard has been prepared under the direction of the Surgical Instruments and Medical Equipment Standards Committee.

Advancements in the field of implant surgery proceed by the collaborative efforts of those skilled in a number of diverse activities, each having a specialized language. Definitions of terms relating to surgical implants were prepared with two main purposes in view, namely:

- a) to promote precision and uniformity in the use of terms relating to the various aspects of surgical implants;
- b) to enable workers in different fields to understand one another.

The intention has been to provide information on terms used in the biological, medical, engineering and materials science aspects of surgical implants. It is emphasized that many of the terms included in this Part of BS 6324 will be found in British Standards directly concerned with particular disciplines, as well as in many text books. The wording of these definitions has in some instances been modified to facilitate understanding of the concepts by readers who are not specialists in these particular disciplines; the definitions are not otherwise incompatible with the general definitions as used and understood in the relevant industries. Every attempt has been made to align terms and definitions with modern practice. This glossary does not purport to be a comprehensive listing of all terms used in connection with surgical implants and has been restricted to those terms most frequently used. Where terms are considered to be deprecated, this has been stated.

The glossary has been prepared in four Parts as follows:

- *Part 1: Glossary of general medical terms;*
- *Part 2: Glossary of terms relating to mechanics;*
- *Part 3: Glossary of terms relating to materials;*
- *Part 4: Glossary of orthopaedic surgical terms.*

Further consideration is being given to the preparation of other Parts covering such fields as cardiovascular, neurosurgical and genito-urinary implant surgery.

Attention is also drawn to the Parts of BS 3531 dealing with surgical implants.

Each term in the glossary has been allocated a number of the type 40101 where the first three digits indicate the section number and the first digit of that group indicates the Part of the glossary. The remaining two digits give the term number within the section.

Where two or more terms have the same meaning, the preferred term is given in bold type and the other terms are given in medium type and, if deprecated, are so indicated.

An alphabetical index of the terms contained in each Part of the glossary is given at the end of that Part. Those terms given in italic type-face in the definitions are themselves defined elsewhere in the same Part and are included in the index for ease of reference.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 34, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 401. Anatomy and physiology: general

No.	Term	Definition
40101	skeleton	The bony and cartilaginous framework of the body, divisible into the axial skeleton [the <i>skull</i> , the <i>spine</i> , the <i>ribs</i> , the <i>sternum</i> and the pelvis (see Part 1 of this standard)] and the appendicular skeleton (the <i>bones</i> of the upper and lower limbs).
40102	vertebral column spine spinal column	That part of the axial <i>skeleton</i> of the body composed of multiple individual units (the <i>vertebrae</i>), the <i>sacrum</i> and the <i>coccyx</i> , together with the <i>intervertebral discs</i> . NOTE The vertebral column has seven cervical, twelve thoracic (or dorsal), five lumbar, five sacral and usually four coccygeal vertebrae. The <i>sacral</i> vertebrae are fused together and the <i>coccygeal</i> vertebrae are rudimentary. Vertebrae of different regions vary greatly; the first cervical (atlas) and the second cervical (axis) vertebrae are particularly specialized and the thoracic vertebrae articulate with the <i>ribs</i> . See also 40216.
40103	upper limb girdle	That part of the skeleton comprising the collar bone (<i>clavicle</i>), the shoulder blade (<i>scapula</i>) and the associated <i>joints</i> and formerly called the shoulder girdle. NOTE There are two upper limb girdles: right and left. Contrast with <i>lower limb girdle</i> .
40104	shoulder	That part of the body between the <i>upper limb girdle</i> and the <i>arm</i> .
40105	axilla armpit	The hollow under the <i>shoulder</i> between the <i>arm</i> and the chest wall.
40106	arm	In anatomy. That part of the upper limb (see Part 1 of this standard) between the <i>shoulder</i> and the <i>elbow</i> , the bone of which is the <i>humerus</i> .
40107	elbow	That part of the upper limb between the <i>arm</i> and the <i>forearm</i> .
40108	antecubital fossa	The area overlying the front of the <i>elbow joint</i> .
40109	forearm	That part of the upper limb between the <i>elbow</i> and the <i>wrist</i> , the <i>bones</i> of which are the <i>radius</i> and the <i>ulna</i> .
40110	wrist	That part of the upper limb between the <i>forearm</i> and the <i>carpus</i> .
40111	hand	That part of the upper limb (see Part 1 of this standard) distal to the <i>wrist</i> and including the <i>palm</i> , the <i>thumb</i> and the <i>fingers</i> .
40112	palm	The anterior (see Part 1 of this standard) aspect of the <i>hand</i> excluding the <i>thumb</i> and the <i>fingers</i> ; it includes the thenar eminence at the base of the thumb and the hypothenar eminence at the base of the little finger.
40113	palmar volar, <i>deprecated</i>	(adjective). Pertaining to the <i>palm</i> of the <i>hand</i> . NOTE Compare with <i>plantar</i> and contrast with dorsal (see Part 1 of this standard).
40114	thumb	The first and most lateral <i>digit</i> of the <i>hand</i> containing two <i>bones</i> : the proximal and the distal (see Part 1 of this standard) <i>phalanges</i> .
40115	fingers	The medial four <i>digits</i> of the <i>hand</i> comprising the index finger which is the most lateral (see Part 1 of this standard), the middle (long) finger, the ring finger and the little finger which is the most medial (see Part 1 of this standard); each finger contains three <i>bones</i> : the proximal, the middle and the distal (see Part 1 of this standard) <i>phalanges</i> . NOTE Fingers should be named and not designated by number. See Figure 1.

No.	Term	Definition
40116	lower limb girdle	That part of the skeleton comprising the two <i>os coxae</i> (hip bones) together with the <i>sacrum</i> and their associated <i>joints</i> , bounded by the buttock, the loin, the groin (see Part 1 of this standard) and the <i>thigh</i> and formerly called the pelvic girdle.
40117	hip	That part of the body between the <i>lower limb girdle</i> and the <i>thigh</i> .
40118	thigh	That part of the lower limb between the groin (see Part 1 of this standard) and the <i>hip</i> and above the <i>knee</i> , the bone of which is the <i>femur</i> .
40119	knee	That part of the lower limb between the <i>thigh</i> and the <i>leg</i> around the <i>knee joint</i> .
40120	popliteal fossa	The area at the back of the <i>knee joint</i> .
40121	leg	In anatomy. That part of the lower limb, comprising the <i>shin</i> and the <i>calf</i> , between the <i>knee</i> and the <i>ankle</i> , the bones of which are the <i>tibia</i> and the <i>fibula</i> .
40122	shin	The hard, anterior part of the <i>leg</i> .
40123	calf	The posterior part of the <i>leg</i> .
40124	peroneal fibular	(adjective). Pertaining to the lateral aspect of the <i>leg</i> .
40125	ankle	That part of the lower limb between the <i>leg</i> and the <i>foot</i> .
40126	foot	That part of the lower limb (see Part 1 of this standard) distal to the <i>ankle</i> .
40127	sole	The under surface of the <i>foot</i> .
40128	plantar volar, <i>deprecated</i>	(adjective). Pertaining to the <i>sole</i> of the <i>foot</i> .
40129	heel	The posterior part of the <i>foot</i> and the <i>sole</i> related to the <i>calcaneum</i> .
40130	instep	The area between the <i>heel</i> and the <i>ball of foot</i> including the medial longitudinal arch.
40131	ball of foot	The distal part of the <i>sole</i> between the <i>instep</i> and the <i>toes</i> .
40132	hindfoot	The posterior half of the <i>foot</i> related to the <i>tarsal bones</i> and including the <i>heel</i> .
40133	forefoot	The distal part of the <i>foot</i> related to the <i>metatarsal bones</i> and including the <i>ball of foot</i> .
40134	toes	The <i>digits</i> of the foot comprising the first toe (great toe or <i>hallux</i>) (containing two bones: the proximal and the distal <i>phalanges</i>); the second to the fifth toe (containing three <i>bones</i> each: the proximal, the middle and the distal <i>phalanges</i>); the fifth toe is also called the little toe.
		NOTE See Figure 2.
40135	digit	The <i>thumb</i> , any <i>finger</i> or any <i>toe</i> .

Section 402. Bones and cartilages

No.	Term	Definition
40201	bone	An individual element of the <i>skeleton</i> . NOTE See also Part 1 of this standard for bone tissue.
40202	epiphysis	The growth region of a <i>bone</i> . Initially composed of hyaline cartilage (see Part 1 of this standard) later acquiring a bony centre which gradually replaces the cartilage. (adjective: epiphyseal.) NOTE A surface may persist to form the articular cartilage (see Part 1 of this standard) of the adjacent <i>joint</i> , and another adjacent to the shaft of the bone (<i>diaphysis</i>), which forms the epiphyseal cartilage plate (see Part 1 of this standard), disappearing when growth ceases.
40203	apophysis	The growth region of a <i>bone</i> related to the insertion of a tendon (see Part 1 of this standard). (adjective: apophyseal.)
40204	diaphysis	That part of the <i>bone</i> between the <i>epiphyseal</i> plates (see Part 1 of this standard) or their sites. (adjective: diaphyseal.)
40205	shaft	The <i>diaphysis</i> of a long <i>bone</i> .
40206	metaphysis	The end of the <i>diaphysis</i> of a long <i>bone</i> adjoining the <i>epiphysis</i> . (adjective: metaphyseal.)
40207	periosteum	The membrane on the free surface of the <i>bone</i> . (adjective: periosteal.) NOTE Compare with <i>perichondrium</i> .
40208	perichondrium	The membrane on the free surface of a non-articular <i>cartilage</i> (see Part 1 of this standard). (adjective: perichondrial.) NOTE Compare with <i>periosteum</i> .
40209	condyle	The rounded expansion forming part of the end of a <i>bone</i> adjacent to the <i>joint</i> (e.g. medial and lateral (see Part 1 of this standard) femoral condyles at the <i>knee</i>). (adjective: condylar.)
40210	epicondyle	The projection from the <i>condyle</i> (e.g. medial and lateral (see Part 1 of this standard) humeral epicondyles at the <i>elbow</i>).
40211	tuberosity	The broad eminence on a <i>bone</i> , often giving an attachment to a ligament or a <i>muscle</i> , and especially a tendon (see Part 1 of this standard) (e.g. the greater and lesser tuberosities at the upper end of the <i>humerus</i>).
40212	tubercle	a) A small <i>tuberosity</i> . b) In pathology. A nodule in tissue (notably the lesion characteristic of tuberculosis).
40213	trochanter	A projection at the upper end of the <i>femur</i> , elsewhere called a <i>tuberosity</i> . NOTE The greater trochanter is a large projection at the upper end of the femur to which the <i>abductor</i> muscles of the <i>hip</i> (gluteus medius and minimus) are attached. The lesser trochanter is a prominent process below the neck of the femur to which the main flexor muscle of the hip (iliopsoas) is attached.
40214	trochlea	A structure acting as a pulley, e.g. the trochlea of the lower end of the <i>humerus</i> which articulates with the trochlear notch on the <i>ulna</i> . (adjective: trochlear.)
40215	sesamoid bone	The seed-like <i>bone</i> developed in a tendon (see Part 1 of this standard) which moves over the bony prominence.

No.	Term	Definition
40216	vertebra	An individual <i>bone</i> of the <i>vertebral column</i> . (plural: <i>vertebrae</i> , adjective: <i>vertebral</i> .) NOTE A typical vertebra comprises a cylindrical body with an arch posteriorly forming part of the vertebral canal that contains the spinal cord and the spinal nerves with coverings (meninges). The vertebrae are separated by intervertebral discs, comprising a peripheral annulus fibrosus and a central nucleus pulposus. See also 40102.
40217	sacrum	The fused sacral <i>vertebrae</i> lying caudal (see Part 1 of this standard) to the lumbar vertebrae and articulating with the <i>os coxae</i> . (adjective: <i>sacral</i> .)
40218	coccyx tail bone	That part of the <i>vertebral column</i> consisting of usually four rudimentary <i>vertebrae</i> lying caudal (see Part 1 of this standard) to the <i>sacrum</i> . (adjective: <i>coccygeal</i> .)
40219	sternum breast bone	The <i>bone</i> forming the anterior mid-line part of the <i>skeleton</i> of the chest wall; it articulates with the inner end of the <i>clavicle</i> and the costal cartilages. (adjective: <i>sternal</i> .)
40220	rib	A curved bony strut lying in the chest wall. NOTE There are twelve pairs of ribs. Posteriorly (see Part 1 of this standard) they articulate with the thoracic <i>vertebrae</i> ; anteriorly (see Part 1 of this standard) the upper ten pairs are fused to the costal cartilages which articulate with the <i>sternum</i> .
40221	clavicle collar bone	A <i>bone</i> forming a part of the <i>upper limb girdle</i> . (adjective: <i>clavicular</i> .) NOTE The medial (see Part 1 of this standard) end of the clavicle articulates with the upper part of the <i>sternum</i> and the outer end articulates with the acromion process of the <i>scapula</i> .
40222	scapula shoulder blade	A roughly triangular flat <i>bone</i> forming part of the <i>upper limb girdle</i> . (adjective: <i>scapular</i> .) NOTE It is characterized by two processes, the acromion and the coracoid, and the shallow oval articular surface, known as the glenoid cavity. The acromion process articulates with the outer end of the <i>clavicle</i> ; the glenoid cavity articulates with the <i>humerus</i> .
40223	humerus	The bone of the upper <i>arm</i> . (plural: <i>humeri</i> , adjective: <i>humeral</i> .) NOTE The proximal end (see Part 1 of this standard) is characterized by the convex head and two <i>tuberosities</i> . The head articulates with the glenoid cavity of the <i>scapula</i> forming the <i>shoulder joint</i> . The distal end (see Part 1 of this standard) is characterized by two <i>epicondyles</i> and the rounded articular <i>condyle</i> that articulates with the proximal (see Part 1 of this standard) ends of the <i>radius</i> and the <i>ulna</i> at the <i>elbow joint</i> .
40224	radius	The lateral (see Part 1 of this standard) of the two <i>forearm</i> bones. (plural: <i>radii</i> , adjective: <i>radial</i> .) NOTE 1 The proximal (see Part 1 of this standard) end (head) is rounded and articulates with the <i>humerus</i> at the <i>elbow joint</i> and with the <i>ulna</i> . The expanded distal (see Part 1 of this standard) end forms the base that articulates with the <i>carpal bones</i> at the <i>wrist joint</i> and with the head of the <i>ulna</i> . NOTE 2 Movement between the <i>radius</i> and the <i>ulna</i> is termed <i>pronation</i> and <i>supination</i> .
40225	ulna	The medial (see Part 1 of this standard) of the two <i>forearm</i> bones. (adjective: <i>ulnar</i> .) NOTE 1 The proximal (see Part 1 of this standard) end is characterized by the <i>trochlear</i> notch which articulates with the <i>humerus</i> at the <i>elbow joint</i> and the olecranon process (the point of the <i>elbow</i>). NOTE 2 The proximal end articulates with the <i>radius</i> , as does the distal end (see Part 1 of this standard) (head) which also is characterized by the prominent styloid process.

No.	Term	Definition
40226	carpus	The group of small bones of the <i>hand</i> articulating proximally with the distal (see Part 1 of this standard) end of the <i>radius</i> , distally with the <i>metacarpus</i> and comprising the scaphoid, lunate, triquetrum, trapezium, trapezoid, capitate, hamate and pisiform bones. (adjective: carpal.)
40227	metacarpus	The five bones lying between the <i>carpus bones</i> and the <i>digits</i> . (adjective: metacarpal.) NOTE The first metacarpal relates to the <i>thumb</i> , the second to the index <i>finger</i> , the third to the middle finger, the fourth to the ring finger and the fifth to the little finger.
40228	os coxa hip bone	That part of the <i>skeleton</i> (formerly called the os innominatum), comprising the ilium, the ischium and the pubis. NOTE 1 It is the main part of the <i>lower limb girdle</i> , articulating with the head of the <i>femur</i> at the <i>hip joint</i> , and with the <i>sacrum</i> . Anteriorly, the two os coxae articulate at the symphysis pubis. NOTE 2 In the child, the constituent bones are separated by the Y-shaped <i>epiphyseal</i> cartilage plate (see Part 1 of this standard) in the acetabulum (a cup-shaped depression forming part of the hip joint).
40229	femur	The <i>bone</i> of the <i>thigh</i> . NOTE The upper end bears the <i>trochanters</i> for muscle attachments and the neck carrying the head (ball of <i>hip joint</i>), articulating with the acetabulum or socket of the <i>lower limb girdle</i> . The lower end is extended into two <i>condyles</i> , articulating with the <i>patella</i> and the <i>tibia</i> at the <i>knee joint</i> .
40230	calcar femorale	a) In anatomy. The plate of <i>bone</i> formed by the condensation of trabeculae (see Part 1 of this standard) at the junction of the neck and <i>shaft</i> of the <i>femur</i> inferiorly and posteriorly (see Part 1 of this standard). b) In surgery. Commonly used to denote the very strong area at the root of the neck of the femur inferiorly (see Part 1 of this standard) at the junction with the shaft just above the lesser <i>trochanter</i> .
40231	patella knee cap	The <i>bone</i> of the <i>knee joint</i> , lying in the quadriceps tendon, having articular cartilage (see Part 1 of this standard) on its posterior surface which glides over the front of the articular surface of the lower end of the <i>femur</i> . (plural: patellae, adjective: patellar.)
40232	tibia	The major <i>bone</i> of the <i>shin</i> , extending from the <i>knee</i> to the <i>ankle</i> . (plural: tibiae, adjective: tibial.)
40233	fibula splint bone	The lesser <i>bone</i> of the <i>leg</i> proper, serving mainly for attachment of the <i>muscles</i> . The lower end forms the outer prominence of the <i>ankle joint</i> . (plural: fibulae, adjective: fibular.)
40234	tarsus	The group of small bones of the foot consisting of the <i>talus</i> , the <i>calcaneum</i> , the navicular, the cuboid and the three cuneiform <i>bones</i> . These bones form the <i>hindfoot</i> . (adjective: tarsal.)
40235	talus	The <i>tarsal bone</i> (formerly called the astragalus) lying between the lower end of the <i>tibia</i> and the remainder of the <i>foot</i> . (adjective: talar.)
40236	calcaneum calcanium; os calcis	The <i>tarsal bone</i> forming the heel, into which the <i>tendo Achillis</i> (Achilles tendon or the tendo-calcaneus) is inserted. (plural: calcanei, adjective: calcaneal.)
40237	metatarsus	The five <i>bones</i> lying between the <i>tarsus</i> and the <i>toes</i> and which form the <i>forefoot</i> . (adjective: metatarsal.)
40238	phalanx	A <i>bone of a digit</i> . There are two [proximal and distal (see Part 1 of this standard)] in the <i>thumb</i> and the great <i>toe</i> (hallux); there are three [proximal, medial and distal (see Part 1 of this standard)] in the other digits. (plural: phalanges, adjective: phalangeal.)

No.	Term	Definition
40239	skull	The <i>skeleton</i> of the head. The upper part forms a box [cranium (see Part 1 of this standard)] to protect the brain; the anterior and lower part underlies the face (see Part 1 of this standard) and the jaws.
40240	maxilla	One of the two paired <i>bones</i> of the upper jaw containing the upper teeth. (plural: maxillae, adjective: maxillary.)
40241	mandible	One of the two paired <i>bones</i> of the lower jaw containing the lower teeth and articulating with the <i>skull</i> at the <i>temporomandibular joint</i> . (adjective: mandibular.)

Section 403. Joints

40301	joint articulation	The junction of two or more <i>bones</i> of the <i>skeleton</i> together with the immediately adjacent soft tissues responsible for the integrity of the junction, i.e. the <i>synovium</i> , the <i>capsule</i> and the ligaments (see Part 1 of this standard) as appropriate. (adjective: articular.)
40302	symphysis	A <i>joint</i> between <i>bone</i> ends covered by hyaline cartilage (see Part 1 of this standard) with an intervening fibrous disc. (plural: symphyses, adjective: symphyseal.) NOTE All symphyses are in the median plane (see Part 1 of this standard), e.g. the symphysis pubis at the front of the <i>lower limb girdle</i> and the <i>intervertebral discs</i> . Little movement occurs at these <i>joints</i> .
40303	synovial joint	A <i>joint</i> between <i>bone</i> ends covered by hyaline articular cartilage (see Part 1 of this standard); the joint cavity around the bone ends is filled with synovial fluid and surrounded by the <i>capsule</i> lined by the <i>synovial membrane</i> . NOTE Usually a considerable range of movement is possible at synovial joints.
40304	synovium synovial membrane	The thin membrane lining a <i>synovial joint</i> (except over articular cartilage), <i>bursae</i> and parts of some tendons (see Part 1 of this standard). It secretes synovial fluid which serves as a lubricant and which is important in the nutrition of the articular cartilage.
40305	capsule	In anatomy. The fibrous sleeve of a <i>joint</i> . (adjective: capsular.) NOTE Contrast with the definitions given in Part 1 of this standard.
40306	meniscus	A disc or crescent of fibrocartilage (see Part 1 of this standard) between the surfaces of certain <i>joints</i> , e.g. the so-called “cartilage” in the <i>knee joint</i> . (plural: menisci, adjective: meniscal.)
40307	bursa	a) A sac lined by a <i>synovium</i> . It is found at places of friction or potential friction as a normal structure (anatomical bursa), or as an abnormal structure (adventitious bursa). b) A normal diverticulum of a <i>joint</i> (e.g. suprapatellar bursa). (plural: bursae, adjective: bursal.)
40308	flexion	Angular movement at a <i>joint</i> in a sagittal plane (see Part 1 of this standard). NOTE 1 Flexion at the <i>shoulder</i> is slightly oblique to the sagittal plane, the upper limb being carried forwards towards the median plane (see Part 1 of this standard). Flexion of the <i>thumb</i> is almost completely in the coronal plane (see Part 1 of this standard), the thumb being moved across the <i>palm</i> . Dorsi-flexion of the <i>foot</i> is an <i>extension</i> movement. Flexion of the <i>ankle</i> causes <i>plantar</i> flexion of the foot. NOTE 2 Figure 5 illustrates the direction of angular movement in flexion.

No.	Term	Definition
40309	extension	Angular movement at a <i>joint</i> in a sagittal plane (see Part 1 of this standard). NOTE 1 Extension at the <i>shoulder</i> is slightly oblique to the sagittal plane, the <i>arm</i> being carried backwards away from the median plane (see Part 1 of this standard). Extension of the <i>thumb</i> is almost in the coronal plane (see Part 1 of this standard), the thumb being carried away from the <i>hand</i>. Extension of the <i>foot</i> is called dorsi-flexion. Extension of the <i>ankle</i> causes dorsi-flexion of the foot. NOTE 2 Figure 6 illustrates the direction of angular movement in extension.
40310	adduction	Angular movement at a <i>joint</i> in a coronal plane (see Part 1 of this standard) towards the median plane (see Part 1 of this standard) of the body except that: a) in the <i>hand</i>, adduction refers to movement towards an axis through the middle finger and the third <i>metacarpal bone</i>; b) in the <i>foot</i>, adduction refers to movement towards an axis through the second <i>toe</i> and second <i>metatarsal bone</i>. NOTE 1 Adduction of the <i>thumb</i> carries the thumb towards the <i>palm</i>, almost in the sagittal plane (see Part 1 of this standard). NOTE 2 Contrast with <i>abduction</i>.
40311	abduction	Angular movement at a <i>joint</i> in a coronal plane (see Part 1 of this standard) away from the median plane (see Part 1 of this standard) of the body except that: a) in the <i>hand</i>, abduction refers to movement away from an axis through the middle finger and third <i>metacarpal bone</i>; b) in the <i>foot</i>, abduction refers to movement away from an axis through the second <i>toe</i> and second <i>metatarsal bone</i>. NOTE 1 In abduction of the <i>thumb</i>, the thumb is carried away from the <i>palm</i> in the sagittal plane (see Part 1 of this standard). NOTE 2 Contrast with <i>adduction</i>.
40312	pronation	Rotating the <i>forearm</i> inwards; e.g. with the <i>elbow</i> bent, the <i>palm</i> faces downwards. NOTE Contrast with <i>supination</i>.
40313	supination	Rotating the <i>forearm</i> outwards, e.g. with the <i>elbow</i> bent, the <i>palm</i> faces upwards. NOTE Contrast with <i>pronation</i>.
40314	opposition	The composite movement of the <i>thumb</i>, partly <i>abduction</i> and partly <i>rotation</i>, around the longitudinal axis so that the tip of the <i>thumb</i> may be brought to touch the tips of the <i>fingers</i>.
40315	rotation	The movement of a limb around the longitudinal axis. In external rotation, the anterior aspect of the limb turns to face laterally (see Part 1 of this standard); in internal rotation, the anterior (see Part 1 of this standard) aspect of the limb turns to face medially (see Part 1 of this standard).
40316	circumduction	The composite movement of <i>flexion</i>, <i>adduction</i>, <i>extension</i> and <i>abduction</i> as one circular movement. It is only possible at certain <i>joints</i>, e.g. the <i>shoulder</i> and the <i>hip joints</i>.
40317	inversion	The combined <i>adduction</i> and <i>plantar flexion</i> of the <i>foot</i> so that the <i>sole</i> tends to face the median plane (see Part 1 of this standard). NOTE Contrast with <i>eversion</i>.
40318	eversion	The combined <i>abduction</i> and dorsi-flexion of the <i>foot</i> so that the <i>sole</i> tends to face away from the median plane (see Part 1 of this standard). NOTE Contrast with <i>inversion</i>.
40319	temporomandibular joint	The <i>joint</i> between the <i>condyle</i> of the <i>mandible</i> (lower jaw) and the base of the <i>skull</i>.

No.	Term	Definition
40320	atlanto-occipital joint	The <i>joint</i> between the base of the <i>skull</i> and the first cervical <i>vertebra</i> (atlas <i>vertebra</i>).
40321	atlanto-axial joint	The <i>joint</i> between the first (atlas) and the second (axis) <i>cervical vertebrae</i> .
40322	sternoclavicular joint	The <i>joint</i> between the medial (see Part 1 of this standard) end of the <i>clavicle</i> and the <i>sternum</i> . NOTE Movement at this and the <i>acromioclavicular joint</i> allows considerable movements between the <i>upper limb girdle</i> and the chest wall thus increasing considerably the range of movement of the whole upper limb.
40323	acromioclavicular joint	The <i>joint</i> between the lateral (see Part 1 of this standard) end of the <i>clavicle</i> and the acromion process of the <i>scapula</i> .
40324	shoulder joint gleno-humeral joint	The <i>joint</i> between the shallow glenoid cavity of the <i>scapula</i> and the convex head of the <i>humerus</i> . NOTE The <i>muscles</i> that <i>abduct</i> the shoulder joint (supraspinatus and <i>deltoid muscles</i>) have special surgical importance. Movements of the <i>upper limb girdle</i> involve the <i>shoulder</i> , the <i>acromioclavicular</i> and <i>sternoclavicular joints</i> and movement between the <i>scapula</i> and the chest wall.
40325	elbow joint	The <i>joint</i> between the distal (see Part 1 of this standard) end of the <i>humerus</i> (bone of the <i>arm</i> proper) and the proximal (see Part 1 of this standard) ends of the <i>radius</i> and the <i>ulna</i> (bones of the <i>forearm</i>). NOTE It is <i>extended</i> by the triceps <i>muscle</i> in the back of the <i>arm</i> and flexed by the brachialis and <i>biceps muscles</i> . The latter muscle also <i>supinates</i> the <i>forearm</i> .
40326	radio-ulnar joints	The superior and inferior (see Part 1 of this standard) <i>joints</i> at each end of the <i>radius</i> and the <i>ulna</i> allowing the <i>rotatory</i> movements of the <i>forearm</i> which are termed <i>pronation</i> and <i>supination</i> .
40327	wrist joint	The <i>joint</i> between the distal (see Part 1 of this standard) end of the <i>radius</i> and the proximal (see Part 1 of this standard) row of the <i>carpal</i> bones (scaphoid, lunate and triquetrum bones).
40328	carpometacarpal joint	The <i>joint</i> between the <i>carpal</i> and the <i>metacarpal bones</i> . NOTE The carpometacarpal joint of the <i>thumb</i> is adapted to allow a wide range of movement, particularly <i>opposition</i> .
40329	metacarpophalangeal joint	The <i>joint</i> between the <i>metacarpal</i> bone and the proximal <i>phalanx</i> of any <i>digit</i> of the <i>hand</i> .
40330	interphalangeal joint	The <i>joint</i> between the <i>phalanges</i> of the <i>digits</i> . In all <i>fingers</i> and in the second to fifth <i>toes</i> there are two interphalangeal joints: the proximal (see Part 1 of this standard) joint between the proximal and middle phalanges and the distal (see Part 1 of this standard) joint between the middle and distal phalanges.
40331	sacro-iliac joint	The <i>joint</i> between the <i>sacrum</i> and the iliac part of the <i>os coxa</i> (hip bone). NOTE Although a <i>synovial joint</i> , it has very little movement.
40332	hip joint	The ball-and-socket <i>joint</i> between the convex head of the <i>femur</i> and the concave acetabulum or socket in the <i>os coxa</i> (hip bone).
40333	knee joint	The <i>joint</i> between the <i>femur</i> and the <i>tibia</i> , including also the joints between the femur and the <i>patella</i> (knee cap).
40334	ankle joint	The <i>joint</i> between the <i>tibia</i> , the <i>fibula</i> and the <i>talus</i> .
40335	subtalar joint	The bipartite <i>joint</i> between the <i>talus</i> and <i>calcaneum</i> (formerly called the talo-calcaneal joint) that, in association with the talo-navicular joint, allows the movements of <i>inversion</i> and <i>eversion</i> .