

Emtree Terms Added and Changed (September 2016)

This is an overview of new terms added and changes made in the third Emtree release in 2016.

Overall, Emtree has grown by 784 preferred terms (35 drug terms and 749 non-drug terms) compared with the previous version released in May 2016. In total Emtree now counts 74,706 preferred terms.

Because the terms added include replacements for existing preferred terms (which become synonyms of the new terms) as well as completely new concepts, the number of terms added exceeds the net growth in Emtree. Other changes could include the merging of two or more existing preferred terms into a single concept.

The terms added and changed are summarized below and specified in detail on the following pages.

Emtree Terms Added in September 2016

860 new terms (including 76 replacement terms and promoted synonyms) have been added to Emtree as preferred terms in version September 2016 (compared to May 2016):

- 51 drug terms (terms assigned to the Chemicals and Drugs facet).
- 809 non-drug terms (terms not assigned as Chemicals and Drugs).

The new terms (including the replacement terms and the promoted synonyms) are listed as *Terms Added* on the following pages. Note that many of these terms will have been indexed prior to 2016 (typically as candidate terms), sometimes for several years, before they were added to Emtree.

Emtree Terms Changed in September 2016

76 terms (16 drug terms and 60 non-drug terms) from Emtree May 2016 have been replaced by 76 different terms in September 2016 (16 drug terms and 60 non-drug terms).

Of these, 60 terms (9 drug terms and 51 non-drug terms) are new (e.g. new generic names for drug chemical names) and have been assigned creation date 2016; the remaining 16 replacement terms (7 drug terms and 9 non-drug terms) were already present in Emtree.

No drug terms were replaced by a non-drug term, no non-drug terms were replaced by a drug term. No preferred terms were deleted.

Changes are presented in alphabetical order of the *new* terms.

Drug terms

4 [1 oxo 3 (2,6,6 trimethyl 1 cyclohexen 1 yl) 2
 propen 1 yl] 1 piperazinecarboxamide
 4' [[(2 methoxy 1 methyl 2
 oxoethyl)amino](phenoxy)phospho]pantothenic
 acid methyl ester
 6 (2 fluorophenyl) n [3 [2 [(2
 methoxyethyl)amino]ethyl]phenyl] 5,6
 dihydrobenzo[h]quinazolin 2 amine
 adegromotide
 afabacin
 auto crosslinked hyaluronic acid
 biocompatible coated material
 birabresib
 brazikumab
 ciprofloxacin plus fluocinolone acetonide
 dextro tyrosylisoleucylcysteinylvalyl 1
 methyltryptophylglutaminylaspartyltryptophyl n
 methylglycylalanylhistidylarginylcysteinyl n
 methylisoleucinamide 3,13 cyclic sulfide
 epinephrine
 erenumab
 eys 606
 formoterol fumarate plus glycopyrronium bromide
 galinpepimut S
 gallium dotatate ga 68
 glycopyrronium
 heterogeneous nuclear ribonucleoprotein group A B
 heterogeneous nuclear ribonucleoprotein group C
 heterogeneous nuclear ribonucleoprotein group F H
 heterogeneous nuclear ribonucleoprotein group M
 hm71224
 lacosamide
 maralixibat
 Matricaria flower extract
 Matricaria oil
 plant protein
 polyethylene glycol modified cystathionine beta
 synthase
 post-translationally modified protein
 proteins by anatomical concept
 proteins by cellular component
 proteins by organism
 proteins by physicochemical property
 quinlukast
 ribonucleotide reductase R2 specific
 phosphorothioate oligonucleotide
 RNA binding protein FUS
 rosomidnar
 smoflipid
 solifenacin plus mirabegron
 solifenacin plus tamsulosin
 spin label
 strimvelis
 tucidinostat
 uprifosbuvir
 utomilumab
 verdin
 viral protein
 virginiae butanolide B
 virginiae butanolide D
 virginiae butanolide E

Non-drug terms

abandoned child
 abdominal actinomycosis
 Abkhazia
 abreaction
 Abu Dhabi
 Aceh
 acoustic neuroma
 Acre (state)
 adductor magnus muscle
 adrenal chromaffin cell
 adrenal medullary cell
 adrenal tuberculosis
 advance care planning
 advocacy group
 aerobic glycolysis
 Aguascalientes (state)
 AIDS arteritis
 airway cell
 airway epithelial cell
 Ajman
 Alagoas
 Aland
 alcohol rehabilitation
 alcohol withdrawal seizure
 alcohol withdrawal syndrome
 alcoholic delirium
 alcoholic hallucinosis
 all-terrain vehicle
 alloreactive T cell
 alveolar ridge augmentation
 alveolectomy
 alveoloplasty
 Amapa
 Amazonas (Brazil)
 amphetamine abuse
 amphetamine dependence
 amputee
 amygdala neuron
 Andaman and Nicobar Islands
 Andhra Pradesh
 animal toxoplasmosis
 animal well-being
 anomie
 antenna (radio)
 anti-infective therapy
 antifungal therapy
 antihelminthic therapy
 antiparasitic therapy
 antiprotozoal therapy
 aortic endothelial cell
 aortic smooth muscle cell
 apex cardiography
 apexification
 apicoectomy
 apparent diffusion coefficient
 Arab world
 arterial smooth muscle
 arterial smooth muscle cell
 arterial spin labeling
 artery perfusion pressure
 artificially sweetened beverage
 Assam
 aunt
 autosuggestion
 axotomy
 Azad Jammu and Kashmir
 Azores
 Bahia
 Balearic Islands
 ballistocardiography
 barber surgeon
 Barton fracture
 basal cell carcinoma cell
 basal lamina
 behavioral addiction
 benchmarking
 bereavement support
 Bergmann glia cell
 best corrected visual acuity
 Bihar
 bilateral nephrectomy
 bile duct adenoma
 biobank
 biomedical enhancement
 black hole
 blood dendritic cell
 blood relative
 bloodletting
 bone bank
 boron neutron capture therapy
 Brill-Zinsser disease
 brother
 brother-in-law
 Brussels Capital Region
 budding yeast
 bulbar poliomyelitis
 bulbospinal poliomyelitis
 burial
 Campeche (state)
 Canary Islands
 cancer associated fibroblast
 capitalism
 capitate fracture
 cardiac interstitium
 cardiac surgery intensive care unit
 cardiology service
 cardiovascular syphilis
 caries assessment
 catharsis
 causality
 Ceara
 cecum mucosa
 cemetery
 central retina

cerebral malaria
 cerebral toxoplasmosis
 cervicofacial actinomycosis
 Chagas cardiomyopathy
 chancre
 Chandigarh
 chemical stimulation
 Chhattisgarh
 Chiapas
 Chihuahua (state)
 child of impaired parents
 child-in-law
 childhood cancer survivor
 childhood sexual abuse survivor
 chiropractic manipulation
 cholangiocyte
 choroidal thickness
 chronotherapy
 cine magnetic resonance imaging
 clinical audit
 clinical laboratory personnel
 clinical laboratory service
 clinical outcome
 Coahuila
 Colima (state)
 Colinus virginianus
 collecting tubule cell
 colon cell
 colonialism
 communism
 community periodontal index of treatment needs
 compulsive buying
 computed tomography enterography
 computer addiction
 confirmatory factor analysis
 confocal laser scanning microscopy
 consumer organization
 corrected distance visual acuity
 Corsica
 counter pressure
 country economic status
 couple therapy
 cousin
 craving
 cremation
 crematorium
 crown lengthening
 cultural diversity
 cutaneous syphilis
 daughter-in-law
 DEAE cellulose chromatography
 democracy
 dengue hemorrhagic fever
 dengue shock syndrome
 dental debridement
 dental disease assessment
 dental marginal adaptation
 dental prevention
 dental prophylaxis
 dental pulp capping
 dental pulp devitalization
 dental pulp stem cell
 dental restoration
 dental scaling
 dietary service
 digital breast tomosynthesis
 discectomy
 dispersity
 distal femur
 distal fibula
 distal humeral fracture
 distal humerus
 distal radius
 distal radius fracture
 distal tibia
 distal ulna
 DMF index
 DMFS index
 DMFT index
 DNA damage response
 domestic partner
 donor-host cell interaction
 Dothideomycetes
 double bind
 drug craving
 drug induced malformation
 drug utilization review
 dual antiplatelet therapy
 Durango (state)
 dynamic contrast-enhanced magnetic resonance imaging
 economic model
 electronic device
 embalming
 endodontic procedure
 endodontic surgery
 energy dispersive X ray spectroscopy
 entrepreneurship
 environmental decision making
 ephyra (life cycle stage)
 epicardial fat
 epidemic typhus
 epineurium
 Espirito Santo
 estimated glomerular filtration rate
 European wild boar
 Eurotiomycetes
 excretion fraction
 experimental dental caries
 experimental pyelonephritis
 exploratory factor analysis
 extended radical mastectomy
 eye bank
 facial canal
 factor analysis
 family income
 fat pad
 father-in-law

Federal District (Brasilia)
 Federation of Bosnia and Herzegovina
 feline toxoplasmosis
 felony
 female genital tuberculosis
 femoral condyle
 femoral head
 femoral head fracture
 femoral neck
 femoral neck fracture
 femoral shaft
 fermented milk product
 fibula head
 fibula neck
 fibula shaft
 first cousin
 first-degree relative
 fish product
 fission yeast
 Flanders
 fly control
 food craving
 foot muscle
 forearm injury
 foreign medical graduate
 foreign nurse
 foreign physician
 forensic anthropology
 fractional precipitation
 fracture of greater trochanter
 fracture of lesser trochanter
 Freudian theory
 full mouth rehabilitation
 functional connectivity
 Galeazzi fracture
 game addiction
 gastric bypass surgery
 gastric tuberculosis
 gastrointestinal tuberculosis
 genioplasty
 geophagia
 gestational carrier
 gestational weight gain
 Gilgit-Baltistan
 gingival bleeding index
 gingival index
 gluteus muscle
 Goa
 Goias
 graft size
 granddaughter
 grandfather
 grandmother
 grandson
 granulosa lutein cell
 great-grandfather
 great-grandmother
 great-grandparent
 Greek world
 gross national income
 Guanajuato (state)
 Guerrero
 guineafowl
 Gujarat
 hair follicle cell
 half-brother
 half-sibling
 half-sister
 hamate fracture
 hand disinfection
 Haryana
 head muscle
 hearing impaired person
 heart center
 heart left atrium muscle
 heart right atrium muscle
 heart right ventricle muscle
 heliotherapy
 Hensen cell
 hepatic tuberculosis
 Hidalgo
 high dependency unit
 high income country
 high oxygen pressure
 high-energy shock wave
 highest income group
 Himachal Pradesh
 hip muscle
 HIV enteropathy
 Holtzman inkblot technique
 home parenteral nutrition
 home visit
 homeless man
 homeless person
 homeless woman
 homeless youth
 hospital auxiliary
 hospital CEO
 hospital volunteer
 household income
 housekeeping
 HTLV-1 infection
 HTLV-2 infection
 humeral condyle
 humeral head
 humeral head fracture
 humeral neck
 humeral neck fracture
 humeral shaft
 humeral supracondylar fracture
 husband
 hyperbaric oxygen therapy
 hypoosmolality
 hypoosmolarity
 image intensification
 image segmentation
 immunological pregnancy test
 in vitro fertilization

in-law
 income group
 index of orthodontic treatment need
 infant care
 infected aneurysm
 information technology device
 institutionalized adolescent
 institutionalized adult
 institutionalized child
 institutionalized elderly
 institutionalized person
 interference microscopy
 intestinal tuberculosis
 intraoperative monitoring
 intraoperative neurophysiological monitoring
 Iraqi Kurdistan
 Irian Jaya
 Jalisco
 Jammu and Kashmir
 Japanese wild boar
 Jharkhand
 jugular foramen
 Jungian theory
 Karnataka
 Kerala
 kinetocardiography
 knee collateral ligament
 knee lateral collateral ligament
 knee medial collateral ligament
 Lakshadweep
 laminitis
 language therapy
 large intestine wall
 laser-assisted balloon angioplasty
 latent syphilis
 latent toxoplasmosis
 lateral malleolar fracture
 lateral malleolus
 lateral tibial plateau
 Le Fort I osteotomy
 Le Fort II osteotomy
 Le Fort III osteotomy
 Le Fort osteotomy
 least square analysis
 Lecanoromycetes
 left bronchial artery
 left hippocampus
 left liver lobe
 left lung
 Leotiomyces
 limb bud cell
 limb bud mesenchymal cell
 Listeria meningitis
 liver caudate lobe
 liver quadrate lobe
 liver stiffness
 lobbying
 lobbyist
 logotherapy
 longissimus thoracis
 low income country
 lower leg muscle
 lumpectomy
 lumpy jaw
 lunate fracture
 Lyme arthritis
 Lyme neuroborreliosis
 lymph node toxoplasmosis
 Madeira
 Madhya Pradesh
 magnetic resonance elastography
 magnetic resonance enterography
 Maharashtra
 male genital tuberculosis
 malocclusion assessment
 mandibular advancement
 Manipur
 mantle (mollusc)
 Maranhao
 marginal ear vein
 maternal health service
 Mato Grosso
 Mato Grosso do Sul
 matrix-assisted laser desorption-ionization mass spectrometry
 MDA MB 231 cell line
 medial malleolar fracture
 medial malleolus
 medial tibial plateau
 medical director
 medical intensive care unit
 medical receptionist
 medical record administrator
 medical secretary
 medium spiny neuron
 Meghalaya
 Meloidae
 mental day hospital
 mentally disabled person
 mesenteric lymph node lymphocyte
 metastatic breast cancer
 metastatic colon cancer
 metastatic uvea melanoma
 Mexico City
 Michoacan
 middle ear muscle
 middle income country
 middle income group
 middle phalanx
 milk bank
 milk powder
 milk substitute
 Minas Gerais
 misdemeanor
 mite control
 Mizoram
 modified radical mastectomy
 Moire topography

monocyte like cell
 Monomorium
 Monomorium pharaonis
 monteggia fracture
 Morelos
 mosquito control
 mother-in-law
 motor learning
 multiphasic screening
 murine toxoplasmosis
 murine typhus
 musculoskeletal infection
 musculoskeletal manipulation
 Mycobacterium terrae complex
 Mycobacterium tuberculosis complex
 Mylabris
 myocardial ischemia reperfusion injury
 Nagaland
 narcotics anonymous
 National Capital Territory of Delhi
 national socialism
 Nayarit
 needle sharing
 neonatal abstinence syndrome
 neonatal intensive care unit
 nephew
 nephron cell
 neuroborreliosis
 neurological intensive care unit
 neurotomy
 niece
 Notodontidae
 Nuevo Leon
 Numida
 Numida meleagris
 nursing audit
 Oaxaca (state)
 occlusal adjustment
 ocular onchocerciasis
 ocular toxoplasmosis
 Odisha
 Odontophoridae
 oligodendrocyte progenitor
 onchodermatitis
 operative dentistry
 oral hygiene index
 oral tuberculosis
 orthodontic anchorage
 orthodontic extrusion
 orthodontic procedure
 orthodontic space closure
 orthodontic surgery
 orthodontic tooth movement
 osteopathic manipulation
 osteopathic physician
 ostomy
 pagophagia
 palatal expansion
 pancreas endocrine insufficiency
 pancreatic tuberculosis
 Papua Province
 Para
 Paraiba
 paralytic poliomyelitis
 Parana (state)
 parasitic eye infection
 parent-in-law
 parental death
 parental leave
 pars orbitalis
 patient dumping
 patient visitor
 patient-reported outcome
 Pavo cristatus
 pediatric intensive care unit
 peer assessment rating index
 pelvis floor muscle
 pelvis muscle
 penile prosthesis implantation
 percutaneous discectomy
 Perdicinae
 pericardial fat
 periodontal disease assessment
 periodontal guided tissue regeneration
 periodontal index
 periodontal procedure
 perioperative monitoring
 peripheral blood dendritic cell
 peripheral retina
 Pernambuco
 peroral endoscopic myotomy
 personal income
 Pezizomycetes
 Pezizomycotina
 phalanx fracture
 phantom limb
 Phasianidae
 Phasianinae
 phencyclidine abuse
 phencyclidine dependence
 phoniatriy
 phosphoproteomics
 photogrammetry
 photothermal therapy
 physiatrist
 physical stimulation
 physical well-being
 physically disabled person
 Piaui
 pisiform fracture
 pituicyte
 placental function test
 placental mammal
 plaque index
 plasma exchange
 plasmacytoma cell
 platelet distribution width
 pleasure principle

Plodia
 Plodia interpunctella
 posterior cruciate ligament injury
 posterior cruciate ligament rupture
 potomania
 preimplantation genetic diagnosis
 preprosthetic surgery
 promonocytic cell
 prophylactic mastectomy
 prostate cell
 prostate lobe
 protein misfolding
 protein splicing
 proximal femur
 proximal fibula
 proximal humerus
 proximal phalanx
 proximal radius
 proximal radius fracture
 proximal tibia
 proximal ulna
 psychiatric intensive care unit
 psychological interview
 psychological well-being
 pubovaginal sling procedure
 Puducherry
 Puebla (state)
 pulmonary actinomycosis
 pulmonary toxoplasmosis
 pulpectomy
 pulpotomy
 pulsatility index
 Punjab (India)
 Queretaro (state)
 Quintana Roo
 race relation
 radial head
 radial shaft
 radial styloid process
 radiation induced malformation
 radical mastectomy
 radical nephrectomy
 radioembolization
 radius shaft fracture
 Rajasthan
 rational emotive behavior therapy
 reconstructive surgery
 red blood cell distribution width
 reflectance confocal microscopy
 regiospecificity
 renal cortical cell
 renal medullary cell
 reproductive sterilization
 Republic of Srpska
 restorative dentistry
 retention time
 reticular lamina
 retrograde obturation
 rice milk
 right bronchial artery
 right hippocampus
 right liver lobe
 right lung
 Rio de Janeiro (state)
 Rio Grande do Norte
 Rio Grande do Sul
 rollator
 Roman world
 Rondonia
 root canal obturation
 root canal preparation
 root planing
 Roraima
 Rorschach test
 Saccharomycotina
 safety procedure
 Sahel
 San Luis Potosi (state)
 Santa Catarina (state)
 Sao Paulo (state)
 Sardinia
 satellite glial cell
 school administrator
 sclerostomy
 second-degree relative
 secondary ion mass spectrometry
 self psychology
 Sergipe
 serial extraction (dental)
 severe dengue
 sex worker
 shared decision making
 Sharjah
 sharps injury
 short term psychotherapy
 shoulder muscle
 sibling-in-law
 Sicily
 simple mastectomy
 Sinaloa
 single parent child
 single-parent family
 sister
 sister-in-law
 six minute walk test
 small intestine wall
 Smith fracture
 snowmobile
 socialism
 software
 Somaliland
 son-in-law
 Sonora
 specimen handling
 speech and language rehabilitation
 speech discrimination test
 spinal poliomyelitis
 spine manipulation

splenic B cell
 splenic T cell
 splenic tuberculosis
 State of Mexico
 stepchild
 stepfather
 stepmother
 stepparent
 stereophotography
 stereoselectivity
 subacute care
 suburethral sling procedure
 sugar-sweetened beverage
 sulcus bleeding index
 supported employment
 suprapubic arc sling procedure
 surgical intensive care unit
 surrogate mother
 sweet craving
 sweetened beverage
 syncytiotrophoblast cell
 synesthesia
 T cell lymphoblastic leukemia cell
 Tabasco
 Tamaulipas
 Tamil Nadu
 Taphrinomycotina
 tapped density
 target tissue
 taste bud cell
 Telangana
 telomere length
 temporoparietal junction
 tension-free vaginal tape procedure
 tentacle
 tertiary prevention
 thalamus disease
 Thaumetopoea
 thigh muscle
 third-degree relative
 thoracostomy
 thorax muscle
 thyroid follicular cell
 thyroid tuberculosis
 tibial condyle
 tibial epiphysis
 tibial metaphysis
 tibial plateau fracture
 tibial shaft
 tibial tuberosity
 tick control
 tick paralysis
 tissue bank
 Tlaxcala (state)
 Tocantins
 toilet training
 toileting
 tooth replantation
 total mesorectal excision
 transient elastography
 translational protein modification
 transobturator tape procedure
 trapezium fracture
 Treponema pallidum immobilization test
 Tripura
 triquetrum fracture
 trophocyte
 twin study
 type 1 astrocyte
 type 1 epithelial cell
 type 1 vestibular hair cell
 type 2 astrocyte
 type 2 epithelial cell
 type 2 vestibular hair cell
 typist
 ulnar head
 ulnar shaft
 ulnar styloid process
 ultraviolet microscopy
 ultraviolet phototherapy
 ultraviolet spectrophotometer
 umbilical cord blood cell
 uncle
 unwanted child
 urinary excretion fraction
 urine sampling
 Uttar Pradesh
 Uttarakhand
 vaginal trichomoniasis
 vascular endothelial cell
 venous smooth muscle
 ventral mesencephalon
 Veracruz (state)
 vestibuloplasty
 visual attention
 visually impaired person
 voice training
 Voivodina
 Wallonia
 weapon of mass destruction
 West Bengal
 West Papua Province
 Western world
 wife
 work of breathing
 Yucatan
 Zacatecas (state)

Drug terms

New or pre-existing term

** indicates pre-existing term*

birabresib

epinephrine

funapide*

glycopyrronium

heterogeneous nuclear ribonucleoprotein group C

heterogeneous nuclear ribonucleoprotein group M

kabiven*

lacosamide

maralixibat

neurotrophin receptor p75*

plant protein

recombinant tumor necrosis factor*

tumor necrosis factor*

tumor necrosis factor antibody*

tumor necrosis factor inhibitor*

viral protein

Old (replaced) term

These terms become synonyms of the new term

4 (4 chlorophenyl) n (4 hydroxyphenyl) 2,3,9
trimethyl 6h thieno[3,2 f][1,2,4]triazolo[4,3
a][1,4]diazepine 6 acetamide

adrenalin

xen 402

glycopyrronium bromide

heterogeneous nuclear ribonucleoprotein C

heterogeneous nuclear ribonucleoprotein M

perikabiven

harkoseride

maralixibat chloride

CD271 antigen

vegetable protein

recombinant tumor necrosis factor alpha

tumor necrosis factor alpha

tumor necrosis factor alpha antibody

tumor necrosis factor alpha inhibitor

virus protein

Non-drug terms

New or pre-existing term

** indicates pre-existing term*

acoustic neuroma
 alcohol rehabilitation
 alcohol withdrawal syndrome
 alcoholism*
 androgen insensitivity syndrome*
 animal well-being
 antenna (radio)
 antihelminthic therapy
 arterial smooth muscle
 axotomy
 budding yeast
 cerebral malaria
 chronopharmacology*
 clinical audit
 confocal laser scanning microscopy
 dental prevention
 dental restoration
 diaphragm*
 discectomy
 ephyra (life cycle stage)
 European wild boar
 excretion fraction
 eye bank
 factor analysis
 fat pad
 femoral condyle
 femoral head
 femoral neck
 femoral neck fracture
 femoral shaft
 first-degree relative
 gastric bypass surgery
 humeral head
 humeral supracondylar fracture
 hyperbaric oxygen therapy
 in vitro fertilization
 intestinal tuberculosis
 jungle fowl*
 mental day hospital
 mesothelioma*
 metastatic breast cancer
 metastatic colon cancer
 neurotomy
 oligodendrocyte progenitor
 partial mastectomy*
 Perdicinae
 periodontal procedure
 peritoneal fibrosis*
 pest control*
 Phasianinae
 placental mammal
 psychological well-being
 second-degree relative
 software

Old (replaced) term

These terms become synonyms of the new term

acoustic neurinoma
 alcohol rehabilitation program
 alcohol withdrawal
 alcohol use disorder
 testicular feminization
 animal wellbeing
 antenna
 worm expulsion
 artery muscle
 nerve fiber transection
 Saccharomycetales
 brain malaria
 drug chronotherapy
 medical audit
 confocal laser microscopy
 preventive dentistry
 reparative dentistry
 diaphragm muscle
 intervertebral discectomy
 ephyra
 wild boar
 fractional excretion
 eyebank
 factorial analysis
 fat body
 femur condyle
 femur head
 femur neck
 femur neck fracture
 femur shaft
 first degree relative
 stomach bypass
 humerus head
 humerus supracondylar fracture
 hyperbaric oxygen
 fertilization in vitro
 intestine tuberculosis
 Gallus
 day hospital
 malignant mesothelioma
 breast metastasis
 colon metastasis
 nerve transection (procedure)
 oligodendrocyte precursor cell
 segmental mastectomy
 partridge
 periodontics
 sclerosing peritonitis
 pest management
 pheasant
 placental mammals
 psychological well being
 second degree relative
 computer program

third-degree relative
thyroid follicular cell
tibial epiphysis
tibial shaft
tibial tuberosity
urinary excretion fraction

third degree relative
thyroid follicle cell
tibia epiphysis
tibia shaft
tibia tuberosity
urinary fractional excretion