

## **PubMed**

Concept 1: Bone/bone regeneration/bone reconstruction

"Bone and Bones"[Mesh] OR "Bone\*"[tiab] OR "Bony"[tiab] OR "condyle\*" [tiab] OR "Femur\*"[tiab] OR "Femor\*"[tiab] OR "Trochanter\*" [tiab] OR "Metatars\*"[tiab] OR "Tars\*"[tiab] OR "Os naviculare"[tiab] OR "Calcane\*"[tiab] OR "Os calcis"[tiab] OR "Os cuboideum"[tiab] OR "Talus"[tiab] OR "Tali"[tiab] OR "Astragalus"[tiab] OR "Os talare "[tiab] OR "Os trigonum\*"[tiab] OR "Ossa digitorum pedi"[tiab] OR "Fibula\*"[tiab] OR "Malleol\*"[tiab] OR "Os peroneum"[tiab] OR "Patella\*"[tiab] OR "Tibia\*"[tiab] OR "Pelvic gridle\*"[tiab] OR "Sacrococcyx"[tiab] OR "Acetabul\*"[tiab] OR "Cotyloid Cavit\*"[tiab] OR "Ilium"[tiab] OR "Ilia\*"[tiab] OR "Ischi\*"[tiab] OR "Pubis"[tiab] OR "Pubes"[tiab] OR "Pubic"[tiab] OR "Humer\*"[tiab] OR "Tubercle\*"[tiab] OR "Epitrochlea\*"[tiab] OR "Anatomic neck\*"[tiab] OR "Radius\*"[tiab] OR "Radii\*"[tiab] OR "Radial"[tiab] OR "Radical tuberosit\*"[tiab] OR "Ulna\*"[tiab] OR "Trochlear notch\*"[tiab] OR "Semilunar notch\*"[tiab] OR "Olecranon\*"[tiab] OR "Clavicl\*"[tiab] OR "Os Capitatum"[tiab] OR "Os Carpal"[tiab] OR "Ossa carpalia"[tiab] OR "Os hamatum"[tiab] OR "hook of the hamate\*"[tiab] OR "Os lunatum"[tiab] OR "Os pisiforme"[tiab] OR "Os naviculare"[tiab] OR "Os scaphoideum"[tiab] OR "Os trapezium"[tiab] OR "Os multangulum "[tiab] OR "Os trapezoideum"[tiab] OR " Os trapezium minor"[tiab] OR "Triquetrum"[tiab] OR "Phalang\*"[tiab] OR "Phalanx\*"[tiab] OR "Metacarp\*"[tiab] OR "Scapula\*"[tiab] OR "Shoulder\*"[tiab] OR "Acromia\*"[tiab] OR "Biacromial distance\*"[tiab] OR "Coracoid\*"[tiab] OR "Glenoid cavit\*"[tiab] OR " Glenoid fossa\*"[tiab] OR "Diaphys\*"[tiab] OR "Epiphys\*"[tiab] OR "Metaphys"[tiab] OR "Growth plate\*"[tiab] OR "Epiphyseal cartilage\*"[tiab] OR "Epiphyseal plate\*"[tiab] OR "Hyoid\*"[tiab] OR "Thoracic cage\*"[tiab] OR "Costa\*"[tiab] OR "Rib"[tiab] OR "Ribs"[tiab] OR "Sternum\*"[tiab] OR "Manubrium\*"[tiab] OR "Manubria\*"[tiab] OR "Sternal bod\*"[tiab] OR "Xiphoid process\*"[tiab] OR "Sesamoid\*"[tiab] OR "Osteoid sesam"[tiab] OR "Skeleton\*"[tiab] OR "Skeletal"[tiab] OR "Skull\*"[tiab] OR "Cranium\*"[tiab] OR "Crania\*"[tiab] OR "Cranii"[tiab] OR "Calvari\*"[tiab] OR "Bregma\*"[tiab] OR "fontanel\*"[tiab] OR "Suture junction\*"[tiab] OR "Ossis ethmoidalis"[tiab] OR "Cribriform plate\*"[tiab] OR "Jaw"[tiab] OR "Jaws"[tiab] OR "Gnathology"[tiab] OR "Alveol\*"[tiab] OR "Tooth socket\*"[tiab] OR "Dental socket\*"[tiab] OR "Dental arch\*"[tiab] OR "Tooth arch\*"[tiab] OR "Arcus dentalis"[tiab] OR "Mandible\*"[tiab] OR "Mandibul\*"[tiab] OR "Mylohyoid ridge\*"[tiab] OR "Mylohyoid groove\*"[tiab] OR "Chin\*"[tiab] OR "Mentum\*"[tiab] OR "Mental region\*"[tiab] OR "Mental foram\*"[tiab] OR "Maxilla\*"[tiab] OR "Palate\*"[tiab] OR "incisive papilla\*"[tiab] OR "Orbit\*"[tiab] OR "Eye socket\*"[tiab] OR "Turbinate\*"[tiab] OR "Nasal concha\*"[tiab] OR "Conchae nasal\*"[tiab] OR "Vomer\*"[tiab] OR "Zygoma\*"[tiab] OR "Os frontale"[tiab] OR "Os occipitale\*"[tiab] OR "Foramen magnum\*"[tiab] OR "Os parietale\*"[tiab] OR "Pterygo\*"[tiab] OR "Basicranium\*"[tiab] OR "Olfactory groove\*"[tiab] OR "Posterior fossa\*"[tiab] OR "Fossa posterior\*"[tiab] OR "Posterior cerebral fossa\*"[tiab] OR "Sphenopalatine fossa\*"[tiab] OR "Clivus"[tiab] OR "Jugular foram\*"[tiab] OR "Foram\* jugulare\*"[tiab] OR "Infratemporal\*"[tiab] OR

"Parapharyng\*" [tiab] OR "Para-pharyng\*" [tiab] OR "Pharyng\*" [tiab] OR "Spatium lateropharyngeum" [tiab] OR "Styloid compartment\*" [tiab] OR "Poststyloid" [tiab] OR "Prestyloid" [tiab] OR "Post-styloid" [tiab] OR "Pre-styloid" [tiab] OR "Carotid space\*" [tiab] OR "Sphenoid\*" [tiab] OR "Sella\*" [tiab] OR "Pituitary fossa\*" [tiab] OR "Hypophysis recess\*" [tiab] OR "Os temporal" [tiab] OR "Facial\*" [tiab] OR "Fallop\*" [tiab] OR "Stylomastoid foram\*" [tiab] OR "Mastoid\*" [tiab] OR "Petrous\*" [tiab] OR "Spine\*" [tiab] OR "Spina\*" [tiab] OR "Spinous\*" [tiab] OR "Column\*" [tiab] OR "Backbone" [tiab] OR "Spinosus" [tiab] OR "Vertebra\*" [tiab] OR "Epistropheus" [tiab] OR " Os odontoideum\*" [tiab] OR "Odontoid\*" [tiab] OR "Dens" [tiab] OR "Axis" [tiab] OR "Axes" [tiab] OR "atlas\*" [tiab] OR "Arcuate Foramen" [tiab] OR "Ponticulus Posticus" [tiab] OR "Kimmerle anomal\*" [tiab] OR "Coccyx\*" [tiab] OR "Coccyg\*" [tiab] OR "Tailbone\*" [tiab] OR "Transverse process\*" [tiab] ] OR "Process transvers\*" [tiab] OR "intervertebral\*" [tiab] OR " Annulus fibros\*" [tiab] OR "Nucleus pulposus" [tiab] OR "Nucleus fibrosus" [tiab] OR "Pulpy nucle\*" [tiab] OR "Lumbar\*" [tiab] OR "Lumbalis" [tiab] OR "Sacrum\*" [tiab] OR "Sacra\*" [tiab] OR "Epidural space\*" [tiab] OR "Substantia compacta" [tiab] OR "Haversian" [tiab] OR "Osteon\*" [tiab] OR "Nutrient canal\*" [tiab] OR "Volkmann canal\*" [tiab] OR "Perioste\*" [tiab] OR "Extremities" [Mesh] OR "Extremit\*" [tiab] OR "Digit\*" [tiab] OR "Amputation stump\*" [tiab] OR "limb\*" [tiab] OR "Membrum inferius" [tiab] OR "Ankle\*" [tiab] OR "Buttock\*" [tiab] OR "Gluteal region\*" [tiab] OR "Foot\*" [tiab] OR "Feet" [tiab] OR "Forefoot" [tiab] OR "Forefeet" [tiab] OR "Forepaw\*" [tiab] OR "Toe" [tiab] OR "Toes" [tiab] OR "Hallu\*" [tiab] OR "Heel\*" [tiab] OR "Hip" [tiab] OR "Hips" [tiab] OR "Coxa\*" [tiab] OR "Knee\*" [tiab] OR "Genopathy" [tiab] OR "Infrapatellar fat pad\*" [tiab] OR "Crural region\*" [tiab] OR "Regio cruris" [tiab] OR "Leg" [tiab] OR "Legs" [tiab] OR "Thigh\*" [tiab] OR "Arm" [tiab] OR "Arms" [tiab] OR "Brachium\*" [tiab] OR "Axilla\*" [tiab] OR "Underarm\*" [tiab] OR "Armpit\*" [tiab] OR "Elbow\*" [tiab] OR "Forearm\*" [tiab] OR "Antebrachium\*" [tiab] OR "Hand\*" [tiab] OR "Finger\*" [tiab] OR "Thumb\*" [tiab] OR "Thenar" [tiab] OR "Wrist\*" [tiab] OR "Joints" [Mesh] OR "Joint\*" [tiab] OR "Articula\*" [tiab] OR "Iliopsoas" [tiab] OR "Psoas" [tiab] OR "Coracoacromial" [tiab] OR "Bursa\*" [tiab] OR "Tibiofibular" [tiab] OR "Planta\*" [tiab] OR "Palmar\*" [tiab] OR "Palma manus" [tiab] OR "Fibrocartilage\*" [tiab] OR "Capsule\*" [tiab] OR "Synovi\*" [tiab] OR "Menisc\*" [tiab] OR "Semilunar cartilage\*" [tiab] OR "Ligament\*" [tiab] OR "Volar plate\*" [tiab] OR "Pubic symphys\*" [tiab] OR "Gelnoid labrum" [tiab] OR "Temporomandibular" [tiab] OR "TMJ" [tiab] OR "Carpus" [tiab] OR "Bone substitutes" [Mesh] OR "Bone remodeling" [Mesh] OR "Osteoplasty" [tiab] OR "Osteoconduction\*" [tiab] OR "Osseointegration\*" [tiab] OR "Osseo-integration\*" [tiab] OR "Osseous integration\*" [tiab] OR "Cornerstone(device)" [tiab] OR "Hydroset" [tiab] OR "Orthopaedic endoprosthesis " [tiab] OR "Repiphysis" [tiab] OR "Endosseous healing\*" [tiab] OR "Bone resorption" [Mesh] OR "Ainhum" [tiab] OR "Dactylolys\*" [tiab] OR "Periodontal resorption\*" [tiab] OR "Osteolys\*" [tiab] OR "Acro-osteolysis" [tiab] OR "Acroosteolysis" [tiab] OR "Hajdu-cheney" [tiab] OR "Cheney syndrome\*" [tiab] OR "Arthrodentoosteodysplasia\*" [tiab] OR "Gorham\*" [tiab] OR "Prosthetic rib system\*" [tiab] OR "Extension prosthes\*" [tiab] OR "Extension implant\*" [tiab]

## Concept 2: Titanium/Titanium alloy

"Titanium"[Mesh] OR "Titanium\*"[tiab] OR "Titanum"[tiab] OR "Ti"[tiab] OR "Nitinol"[tiab] OR "Titanium alloy (TiAl6V4)" [Supplementary Concept] OR "Ti6Al4V"[tiab] OR "Ti-6Al-4V"[tiab] OR "Ti-6Al-V4"[tiab] OR "Tivanium"[tiab] OR "Tytanium"[tiab] OR "Protasul-64WF"[tiab] OR "hydroxyapatite-titanium alloy" [Supplementary Concept] OR "Hydroxy\*apatite-titanium" [tiab] OR "HA-Ti" [tiab] OR "titanium-vanadium-cobalt alloy" [Supplementary Concept] OR "(Ti0.95V0.05) Co2" [tiab] OR "Ti-V-Co" [tiab] OR "titanium alloy (TiNb13Zr13)" [Supplementary Concept] OR "TiNb13Zr13" [tiab] OR "titanium-13-niobium-13-zirconium" [tiab] OR "Ti-13Nb-13Zr" [tiab] OR "Ti-6Al-7Nb alloy" [Supplementary Concept] OR "Ti-6Al-7Nb" [tiab] OR "Ti6-Al7-Nb" [tiab] OR "Ti6Al7Nb" [tiab] OR "Protasul 100" [tiab] OR "SN 56512" [tiab] OR "SN-56512" [tiab] OR "Titanium nickelide" [Supplementary Concept] OR "Ti-Ni" [tiab] OR "Nickel-titanium" [tiab] OR "Ni-Ti" [tiab] OR "Titanol" [tiab] OR "Sentalloy" [tiab] OR "Nitanium" [tiab] OR "titanium molybdenum alloy" [Supplementary Concept] OR "Ti-15Mo" [tiab] OR "titanium-niobium-aluminum alloy" [Supplementary Concept] OR "titanium-niobium-aluminum" [tiab] OR "Ti-Nb-Al" [tiab] OR "Ti-In-Nb-Ta alloy" [Supplementary Concept] OR "Ti-In-Nb-Ta" [tiab] OR "Titanium-indium-niobium-tantalum" [tiab] OR "Gold-titanium alloy" [Supplementary Concept] OR "Gold-titanium" [tiab] OR "Au-Ti" [tiab] OR "Titanium-nickel-cobalt alloy" [Supplementary Concept] OR "Titanium-nickel-cobalt" [tiab] OR "Ti(50)Ni(48.7)Co(1.3)" [tiab] OR "TiNiCo" [tiab] OR "Beta titanium" [Supplementary Concept] OR "Titanium-Niobium-Hafnium alloy" [Supplementary Concept] OR "Titanium-Niobium-Hafnium" [tiab] OR "Ti-Nb-Hf" [tiab] OR "Titanium-niobium alloy" [Supplementary Concept] OR "Titanium-niobium" [tiab] OR "Titanium aluminum alloy" [Supplementary Concept] OR "Ti5Al2.5Fe" [tiab]

## Concept 3: 3D printing

"Printing, Three-Dimensional"[Mesh] OR "3D print\*"[tiab] OR "3-D print\*"[tiab] OR "3 D Print\*"[tiab] OR "3 dimensional print\*"[tiab] OR "3-dimensional print\*"[tiab] OR "Three-dimensional print\*"[tiab] OR "Three dimensional print\*"[tiab] OR "Stereolithograph\*"[tiab] OR "Stereo-lithograph\*"[tiab] OR "Rapid prototyp\*"[tiab] OR "Rapid proto-typ\*"[tiab] OR "Additive manufactur\*"[tiab] OR "Additive layer manufactur\*"[tiab] OR "Fuse deposit\*"[tiab] OR "Fused deposit\*"[tiab] OR "FDM"[tiab] OR "Fuse filament fabricat\*"[tiab] OR "Fused filament fabricat\*"[tiab] OR "Fusion deposited model\*"[tiab] OR "Fusion deposition model\*"[tiab] OR "Powder bed fus\*"[tiab] OR "Direct metal laser sinter\*"[tiab] OR "DMLS"[tiab] OR "Electron beam melt\*"[tiab] OR "EBM"[tiab] OR "Selective laser melt\*"[tiab] OR "SLM"[tiab] OR "Selective laser sinter\*"[tiab] OR "SLS"[tiab] OR "Robocast\*"[tiab] OR "Robo-cast\*"[tiab] OR "Direct ink writ\*"[tiab] OR "DIW"[tiab] OR "SLA"[tiab] OR "Bioprint\*"[tiab] OR "Bio-print\*"[tiab]

## **Embase**

Concept 1: Bone/bone regeneration/bone reconstruction

'Bone'/exp OR 'Bone\*':ti,ab,kw OR 'Bony':ti,ab,kw OR 'Condyl\*':ti,ab,kw OR  
'Humer\*':ti,ab,kw OR 'Epitrochlea\*':ti,ab,kw OR 'Tubercle\*':ti,ab,kw OR 'Anatomic  
neck\*':ti,ab,kw OR 'Radius\*':ti,ab,kw OR 'Radii':ti,ab,kw OR 'Radial':ti,ab,kw OR 'Radical  
tuberosit\*':ti,ab,kw OR 'Ulna\*':ti,ab,kw OR 'Trochlear notch\*':ti,ab,kw OR 'Semilunar  
notch\*':ti,ab,kw OR 'Olecranon\*':ti,ab,kw OR 'Os carpal\*':ti,ab,kw OR 'Ossa  
carpalia':ti,ab,kw OR 'Os capitatum':ti,ab,kw OR 'Os hamatum':ti,ab,kw OR 'Hook of the  
hamate\*':ti,ab,kw OR 'lunate\*':ti,ab,kw OR 'Os lunatum':ti,ab,kw OR 'Os pisiforme':ti,ab,kw  
OR 'Os naviculare':ti,ab,kw OR 'Os scaphoideum':ti,ab,kw OR 'Os multangulum':ti,ab,kw OR  
'Os trapezium':ti,ab,kw OR 'Os trapezium minor':ti,ab,kw OR 'Os trapezoideum':ti,ab,kw OR  
'Triquetrum':ti,ab,kw OR 'Metacarp\*':ti,ab,kw OR 'Metatars\*':ti,ab,kw OR 'Tars\*':ti,ab,kw  
OR 'Calcane\*':ti,ab,kw OR 'Os calcis':ti,ab,kw OR 'Os cuboideum':ti,ab,kw OR 'Talus':ti,ab,kw  
OR 'Tali':ti,ab,kw OR 'Astragalus':ti,ab,kw OR 'Os talare':ti,ab,kw OR 'Os trigonum\*':ti,ab,kw  
OR 'Ossa digitorum pedi':ti,ab,kw OR 'Femur\*':ti,ab,kw OR 'Femor\*':ti,ab,kw OR  
'Trochanter\*':ti,ab,kw OR 'Fibula\*':ti,ab,kw OR 'Os peroneum':ti,ab,kw OR  
'Malleol\*':ti,ab,kw OR 'Patella\*':ti,ab,kw OR 'Kneecap\*':ti,ab,kw OR 'Knee cap\*':ti,ab,kw OR  
'Tibia\*':ti,ab,kw OR 'Diaphys\*':ti,ab,kw OR 'Epiphys\*':ti,ab,kw OR 'Growth plate\*':ti,ab,kw  
OR 'Metaphys\*':ti,ab,kw OR 'Phalanx\*':ti,ab,kw OR 'Phalang\*':ti,ab,kw OR  
'Sesamoid\*':ti,ab,kw OR 'Osteoid sesam':ti,ab,kw OR 'Pelvic girdle':ti,ab,kw OR  
'Sacrococcyx':ti,ab,kw OR 'Acetabul\*':ti,ab,kw OR 'Cotyloid cavit\*':ti,ab,kw OR  
'Coccyx\*':ti,ab,kw OR 'Coccyg\*':ti,ab,kw OR 'tailbone\*':ti,ab,kw OR 'ilium':ti,ab,kw OR  
'ilia\*':ti,ab,kw OR 'Ischi\*':ti,ab,kw OR 'Pubis':ti,ab,kw OR 'Pubes':ti,ab,kw OR  
'Pubic\*':ti,ab,kw OR 'Sacrum\*':ti,ab,kw OR 'Sakra\*':ti,ab,kw OR 'Rib\*':ti,ab,kw OR  
'Costa\*':ti,ab,kw OR 'Thoracic cage\*':ti,ab,kw OR 'Shoulder\*':ti,ab,kw OR 'Clavicl\*':ti,ab,kw  
OR 'Scapula\*':ti,ab,kw OR 'Acromion':ti,ab,kw OR 'Acromia\*':ti,ab,kw OR 'Biacromial  
distance\*':ti,ab,kw OR 'Coracoid\*':ti,ab,kw OR 'Glenoid cavit\*':ti,ab,kw OR 'Glenoid  
fossa\*':ti,ab,kw OR 'Sternum\*':ti,ab,kw OR 'Manubrium\*':ti,ab,kw OR 'Manubria\*':ti,ab,kw  
OR 'Stern\* bod\*':ti,ab,kw OR 'Xiphoid process\*':ti,ab,kw OR 'Skeleton\*':ti,ab,kw OR  
'Skeletal':ti,ab,kw OR 'Skull\*':ti,ab,kw OR 'Skull\*':ti,ab,kw OR 'Crania\*':ti,ab,kw OR  
'Cranium\*':ti,ab,kw OR 'Cranii':ti,ab,kw OR 'Alveol\*':ti,ab,kw OR 'Olfactory groove\*':ti,ab,kw  
OR 'Bregma\*':ti,ab,kw OR 'Suture junction\*':ti,ab,kw OR 'Calvari\*':ti,ab,kw OR  
'Clivus':ti,ab,kw OR 'Ossis ethmoidalis':ti,ab,kw OR 'Cribriform plate\*':ti,ab,kw OR  
'Fontanel\*':ti,ab,kw OR 'Foramen magnum\*':ti,ab,kw OR 'Os frontale':ti,ab,kw OR  
'Hyoid\*':ti,ab,kw OR 'Infratemporal\*':ti,ab,kw OR 'Jaw\*':ti,ab,kw OR 'Gnathology':ti,ab,kw  
OR 'Tooth socket\*':ti,ab,kw OR 'Dental socket\*':ti,ab,kw OR 'Mandible\*':ti,ab,kw OR  
'Mandibul\*':ti,ab,kw OR 'Mylohyoid ridge\*':ti,ab,kw OR 'Mylohyoid groove\*':ti,ab,kw OR  
'Chin\*':ti,ab,kw OR 'Mentum\*':ti,ab,kw OR 'Mental region\*':ti,ab,kw OR 'Mental  
foram\*':ti,ab,kw OR 'Mastoid\*':ti,ab,kw OR 'Maxilla\*':ti,ab,kw OR 'Palate\*':ti,ab,kw OR  
'Incisive papilla\*':ti,ab,kw OR 'Nasal concha\*':ti,ab,kw OR 'Conchae nasal\*':ti,ab,kw OR 'Os

occipitale':ti,ab,kw OR 'Orbit\*':ti,ab,kw OR 'Eye socket\*':ti,ab,kw OR 'Os parietale':ti,ab,kw  
OR 'Petros\*':ti,ab,kw OR 'Posterior fossa\*':ti,ab,kw OR 'Fossa posterior':ti,ab,kw OR  
'Posterior cerebral fossa\*':ti,ab,kw OR 'Pterygopalatin\*':ti,ab,kw OR 'Sphenopalatine  
fossa\*':ti,ab,kw OR 'Sella\*':ti,ab,kw OR 'Pituitary fossa\*':ti,ab,kw OR 'Hypophysis  
recess\*':ti,ab,kw OR 'Pharyng\*':ti,ab,kw OR 'Parapharyng\*':ti,ab,kw OR 'Para-  
pharyng\*':ti,ab,kw OR 'Pterygo\*':ti,ab,kw OR 'Spatium lateropharyngeum':ti,ab,kw OR  
'Basicranium\*':ti,ab,kw OR 'Styloid compartment\*':ti,ab,kw OR 'Prestyloid':ti,ab,kw OR 'Pre-  
styloid':ti,ab,kw OR 'Poststyloid':ti,ab,kw OR 'Post-styloid':ti,ab,kw OR 'Carotid  
space\*':ti,ab,kw OR 'Sphenoid\*':ti,ab,kw OR 'Os temporal':ti,ab,kw OR 'Facial\*':ti,ab,kw OR  
'Fallopi\*':ti,ab,kw OR 'Stylomastoid foram\*':ti,ab,kw OR 'Jugular foram\*':ti,ab,kw OR  
'Foram\* jugulare\*':ti,ab,kw OR 'Tooth arch\*':ti,ab,kw OR 'Dental arch\*':ti,ab,kw OR 'Arcus  
dentalis':ti,ab,kw OR 'Turbinate\*':ti,ab,kw OR 'Vomer\*':ti,ab,kw OR 'Zygoma\*':ti,ab,kw OR  
'Spine\*':ti,ab,kw OR 'Spina\*':ti,ab,kw OR 'Spinous':ti,ab,kw OR 'Column\*':ti,ab,kw OR  
'Vertebra\*':ti,ab,kw OR 'backbone\*':ti,ab,kw OR 'Epidural space\*':ti,ab,kw OR  
'atlas':ti,ab,kw OR 'Arcuate foramen':ti,ab,kw OR 'Ponticulus posticus':ti,ab,kw OR  
'Kimmerle anomal\*':ti,ab,kw OR 'axis':ti,ab,kw OR 'axes':ti,ab,kw OR 'Epistrophus':ti,ab,kw  
OR 'Processus spinosus':ti,ab,kw OR 'Process\* transvers\*':ti,ab,kw OR 'Transvers\*  
process\*':ti,ab,kw OR 'Intervertebral\*':ti,ab,kw OR 'Annulus fibros\*':ti,ab,kw OR 'Nucleus  
fibrosus\*':ti,ab,kw OR 'Nucleus pulposus\*':ti,ab,kw OR 'Pulpy nucle\*':ti,ab,kw OR  
'Lumbar\*':ti,ab,kw OR 'lumbalis':ti,ab,kw OR 'Odontoid\*':ti,ab,kw OR 'Dens':ti,ab,kw OR  
'Limb'/exp OR 'Limb\*':ti,ab,kw OR 'Extremity\*':ti,ab,kw OR 'Digit\*':ti,ab,kw OR 'Amputation  
stump\*':ti,ab,kw OR 'Membrum inferius':ti,ab,kw OR 'Finger\*':ti,ab,kw OR  
'Thumb\*':ti,ab,kw OR 'Toe':ti,ab,kw OR 'Toes':ti,ab,kw OR 'Hallu\*':ti,ab,kw OR 'Hip':ti,ab,kw  
OR 'Hips':ti,ab,kw OR 'Coxa\*':ti,ab,kw OR 'Leg':ti,ab,kw OR 'Legs':ti,ab,kw OR  
'Ankle\*':ti,ab,kw OR 'Buttock\*':ti,ab,kw OR 'Gluteal region\*':ti,ab,kw OR 'Foot':ti,ab,kw OR  
'Feet':ti,ab,kw OR 'Footpad\*':ti,ab,kw OR 'Planta\*':ti,ab,kw OR 'Forefoot':ti,ab,kw OR  
'Forefeet':ti,ab,kw OR 'Forepaw\*':ti,ab,kw OR 'Heel\*':ti,ab,kw OR 'Knee\*':ti,ab,kw OR  
'Genopathy':ti,ab,kw OR 'Infrapatellar fat pad\*':ti,ab,kw OR 'Crural region\*':ti,ab,kw OR  
'Regio cruris':ti,ab,kw OR 'Thigh\*':ti,ab,kw OR 'Arm':ti,ab,kw OR 'Arms':ti,ab,kw OR  
'Brachium\*':ti,ab,kw OR 'Axilla\*':ti,ab,kw OR 'Underarm\*':ti,ab,kw OR 'Armpit\*':ti,ab,kw OR  
'Elbow':ti,ab,kw OR 'Forearm\*':ti,ab,kw OR 'Antebrachium\*':ti,ab,kw OR 'Hand\*':ti,ab,kw  
OR 'Palma manus':ti,ab,kw OR 'Palmar\*':ti,ab,kw OR 'Thenar':ti,ab,kw OR 'Wrist\*':ti,ab,kw  
OR 'Joint'/exp OR 'Joint\*':ti,ab,kw OR 'Articula\*':ti,ab,kw OR 'Iliopsoas':ti,ab,kw OR  
'Psoas':ti,ab,kw OR 'Coracoacromial':ti,ab,kw OR 'Tibiofibular':ti,ab,kw OR  
'Fibrocartilage\*':ti,ab,kw OR 'Ligament\*':ti,ab,kw OR 'Capsule':ti,ab,kw OR 'Volar  
plate\*':ti,ab,kw OR 'Menisc\*':ti,ab,kw OR 'Bursa\*':ti,ab,kw OR 'Synovi\*':ti,ab,kw OR  
'Semilunar cartilage':ti,ab,kw OR 'Pubic symphysis':ti,ab,kw OR 'Glenoid labrum':ti,ab,kw OR  
'Temporomandibular':ti,ab,kw OR 'TMJ':ti,ab,kw OR 'Carpus':ti,ab,kw OR 'Bone  
remodeling'/exp OR 'Osteoplasty':ti,ab,kw OR 'Bone regeneration'/exp OR  
'Osseointegration\*':ti,ab,kw OR 'Osseo-integration\*':ti,ab,kw OR 'Osseous  
integration\*':ti,ab,kw OR 'Osteoconduction\*':ti,ab,kw OR 'Endosseous healing':ti,ab,kw OR

'Ainhum':ti,ab,kw OR 'Dactylolys\*':ti,ab,kw OR 'Periodontal resorption\*':ti,ab,kw OR 'Osteolys\*':ti,ab,kw OR 'Acro-osteolys\*':ti,ab,kw OR 'Acroosteolys\*':ti,ab,kw OR 'Bone tissue engineering'/exp OR 'Bone prosthesis'/exp OR 'Cornerstone(device)':ti,ab,kw OR 'Hydroset':ti,ab,kw OR 'Orthop\* endoprosthesis':ti,ab,kw OR 'Repiphysis':ti,ab,kw OR 'Extension implant\*':ti,ab,kw OR 'Extension prosthes\*':ti,ab,kw OR 'Substantia compacta\*':ti,ab,kw OR 'Haversian':ti,ab,kw OR 'Osteon\*':ti,ab,kw OR 'Nutrient canal\*':ti,ab,kw OR 'Volkman canal\*':ti,ab,kw OR 'Perioste\*':ti,ab,kw OR 'Hajdu-cheney':ti,ab,kw OR 'Cheney syndrome':ti,ab,kw OR 'Arthrodentoosteodysplasia\*':ti,ab,kw OR 'Gorham\*':ti,ab,kw

Concept 2: titanium/titanium alloy

'Titanium'/exp OR 'Titanium\*':ti,ab,kw OR 'Titanum':ti,ab,kw OR 'Ti':ti,ab,kw OR 'Titanium alloy tial6v4'/exp OR 'Titanium alloy tinb13zr13'/exp OR 'Nitinol'/exp OR 'Nitinol':ti,ab,kw OR 'Titanium derivative'/exp OR 'Ti6Al4V':ti,ab,kw OR 'Ti-6Al-4V':ti,ab,kw OR 'Ti-6Al-V4':ti,ab,kw OR 'Tivanium':ti,ab,kw OR 'Tytanium':ti,ab,kw OR 'Protasul-64WF':ti,ab,kw OR 'Hydroxy\*apatite-titanium':ti,ab,kw OR 'HA-Ti':ti,ab,kw OR '(Ti0.95V0.05) Co2':ti,ab,kw OR 'Ti-V-Co':ti,ab,kw OR 'TiNb13Zr13':ti,ab,kw OR 'Ti-13Nb-13Zr':ti,ab,kw OR 'Ti-6Al-7Nb':ti,ab,kw OR 'Ti6-Al7-Nb':ti,ab,kw OR 'Ti6Al7Nb':ti,ab,kw OR 'Protasul 100':ti,ab,kw OR 'SN 56512':ti,ab,kw OR 'SN-56512':ti,ab,kw OR 'Ti-Ni':ti,ab,kw OR 'Nickel-titanium':ti,ab,kw OR 'Ni-Ti':ti,ab,kw OR 'Titanol':ti,ab,kw OR 'Sentalloy':ti,ab,kw OR 'Nitanium':ti,ab,kw OR 'Ti-15Mo':ti,ab,kw OR 'Ti-Nb-Al':ti,ab,kw OR 'Ti-In-Nb-Ta':ti,ab,kw OR 'Gold-titanium':ti,ab,kw OR 'Au-Ti':ti,ab,kw OR 'Ti(50)Ni(48.7)Co(1.3)':ti,ab,kw OR 'TiNiCo':ti,ab,kw OR 'Ti-Nb-Hf':ti,ab,kw OR 'Ti5Al2.5Fe':ti,ab,kw

Concept 3: 3d printing

'Rapid prototyping'/exp OR 'Rapid prototyp\*':ti,ab,kw OR 'Rapid proto-typ\*':ti,ab,kw OR 'Three dimensional print\*':ti,ab,kw OR 'Three-dimensional print\*':ti,ab,kw OR '3 dimensional print\*':ti,ab,kw OR '3-dimensional print\*':ti,ab,kw OR '3-D print\*':ti,ab,kw OR '3D print\*':ti,ab,kw OR '3 D print\*':ti,ab,kw OR 'Additive manufactur\*':ti,ab,kw OR 'Additive layer manufactur\*':ti,ab,kw OR 'Fuse\* deposit\* model\*':ti,ab,kw OR 'FDM':ti,ab,kw OR 'Fuse\* filament fabricat\*':ti,ab,kw OR 'Fusion deposit\* model\*':ti,ab,kw OR 'Powder bed fus\*':ti,ab,kw OR 'Direct metal laser sinter\*':ti,ab,kw OR 'DMLS':ti,ab,kw OR 'Electron beam melt\*':ti,ab,kw OR 'EBM':ti,ab,kw OR 'Selective laser melt\*':ti,ab,kw OR 'SLM':ti,ab,kw OR 'Selective laser sinter\*':ti,ab,kw OR 'SLS':ti,ab,kw OR 'Robocast\*':ti,ab,kw OR 'Robo-cast\*':ti,ab,kw OR 'Direct ink writ\*':ti,ab,kw OR 'DIW':ti,ab,kw OR 'Stereolithograph\*':ti,ab,kw OR 'SLA':ti,ab,kw OR 'Stereo-lithography':ti,ab,kw OR 'Bioprinting':ti,ab,kw OR 'Bio-printing':ti,ab,kw

## ***Web of science***

### Concept 1: Bone/bone regeneration/bone reconstruction

"Bone\*" OR "Bony" OR "condyle\*" OR "Bone-implant interface\*" OR "Bone-prosthesis interface\*" OR "Femur\*" OR "Femor\*" OR "Trochanter\*" OR "Ligamentum teres of the hip\*" OR "Round ligament of the hip\*" OR "Metatars\*" OR "Tars\*" OR "Os naviculare" OR "Calcane\*" OR "Os calcis" OR "Os cuboideum" OR "Talus" OR "Tali" OR "Astragalus" OR "Os talare" OR "Os trigonum\*" OR "Ossa digitorum pedi" OR "Fibula\*" OR "Malleol\*" OR "Os peroneum" OR "Patella\*" OR "Kneecap\*" OR "Knee cap" OR "Tibia\*" OR "Pelvic gridle\*" OR "Pelvic limb\*" OR "Sacrococcyx" OR "Acetabul\*" OR "Cotyloid Cavit\*" OR "Ilium" OR "Ili\*" OR "Ischi\*" OR "Pubis" OR "Pubes" OR "Pubic" OR "Humer\*" OR "Tubercle\*" OR "Epitrochlea\*" OR "Anatomic neck\*" OR "Radius\*" OR "Radii\*" OR "Radial" OR "Radical tuberosit\*" OR "Ulna\*" OR "Trochlear notch\*" OR "Semilunar notch\*" OR "Olecranon\*" OR "Clavicl\*" OR "Os Capitatum" OR "Os Carpal" OR "Ossa carpalia" OR "Os hamatum" OR "hook of the hamate\*" OR "Os lunatum" OR "Os pisiforme" OR "Os naviculare" OR "Os scaphoideum" OR "Os trapezium" OR "Os multangulum" OR "Os trapezoideum" OR "Os trapezium minor" OR "Triquetrum" OR "Phalang\*" OR "Phalanx\*" OR "Metacarp\*" OR "Scapula\*" OR "Shoulder\*" OR "Acromia\*" OR "Biacromial distance\*" OR "Coracoid\*" OR "Glenoid cavit\*" OR "Glenoid fossa\*" OR "Diaphys\*" OR "Epiphys\*" OR "Metaphys" OR "Growth plate\*" OR "Epiphyseal cartilage\*" OR "Epiphyseal plate\*" OR "Hyoid\*" OR "Thoracic cage\*" OR "Costa\*" OR "Rib" OR "Ribs" OR "Sternum\*" OR "Manubrium\*" OR "Manubria\*" OR "Stern\* bod\*" OR "Xiphoid process\*" OR "Sesamoid\*" OR "Osteoid sesam" OR "Skeleton\*" OR "Skeletal" OR "Skull\*" OR "Cranium\*" OR "Crania\*" OR "Cranii" OR "Calvari\*" OR "Bregma\*" OR "fontanel\*" OR "Suture junction\*" OR "Ossis ethmoidalis" OR "Cribriform plate\*" OR "Jaw" OR "Jaws" OR "Gnathology" OR "Alveol\*" OR "Tooth socket\*" OR "Dental socket\*" OR "Dental arch\*" OR "Tooth arch\*" OR "Arcus dentalis" OR "Mandible\*" OR "Mandibul\*" OR "Mylohyoid ridge\*" OR "Mylohyoid groove\*" OR "Chin\*" OR "Mentum\*" OR "Mental region\*" OR "Mental foram\*" OR "Maxilla\*" OR "Palate\*" OR "incisive papilla\*" OR "Orbit\*" OR "Eye socket\*" OR "Turbinate\*" OR "Nasal concha\*" OR "Conchae nasal\*" OR "Vomer\*" OR "Zygoma\*" OR "Os frontale" OR "Os occipitale\*" OR "Foramen magnum\*" OR "Os parietale" OR "Pterygo\*" OR "Basicranium\*" OR "Olfactory groove\*" OR "Posterior fossa\*" OR "Fossa posterior\*" OR "Posterior cerebral fossa\*" OR "Sphenopalatine fossa\*" OR "Clivus" OR "Jugular foram\*" OR "Foram\* jugulare\*" OR "Infratemporal\*" OR "Parapharyng\*" OR "Para-pharyng\*" OR "Pharyng\*" OR "Spatium lateropharyngeum" OR "Styloid compartment\*" OR "Poststyloid" OR "Prestyloid" OR "Poststyloid" OR "Pre-styloid" OR "Carotid space\*" OR "Sphenoid\*" OR "Sella\*" OR "Pituitary fossa\*" OR "Hypophysis recess\*" OR "Os temporal" OR "Facial\*" OR "Falopi\*" OR "Stylomastoid foram\*" OR "Mastoid\*" OR "Petrous\*" OR "Spine\*" OR "Spina\*" OR "Spinous\*" OR "Column\*" OR "Backbone" OR "Spinusus" OR "Vertebra\*" OR "Epistropheus" OR "Os odontoideum\*" OR "Odontoid\*" OR "Dens" OR "Axis" OR "Axes" OR "atlas\*" OR "Arcuate Foramen" OR "Ponticulus Posticus" OR "Kimmerle anomal\*" OR "Coccyx\*" OR

"Coccyg\*" OR "Tailbone\*" OR "Transvers\* process\*" OR "Process\* transvers\*" OR "intervertebral\*" OR " Annulus fibros\*" OR "Nucleus pulposus" OR "Nucleus fibrosus" OR "Pulpy nucle\*" OR "Lumbar\*" OR "Lumbalis" OR "Sacrum\*" OR "Sacra\*" OR "Epidural space\*" OR "Substantia compacta" OR "Haversian" OR "Osteon\*" OR "Nutrient canal\*" OR "Volkmann canal\*" OR "Perioste\*" OR "Extremit\*" OR "Digit\*" OR "Amputation stump\*" OR "limb\*" OR "Membrum inferius" OR "Ankle\*" OR "Buttock\*" OR "Gluteal region\*" OR "Foot\*" OR "Feet" OR "Forefoot" OR "Forefeet" OR "Forepaw\*" OR "Toe" OR "Toes" OR "Hallu\*" OR "Heel\*" OR "Hip" OR "Hips" OR "Coxa\*" OR "Knee\*" OR "Genopathy" OR "Infrapatellar fat pad\*" OR "Crural region\*" OR "Regio cruris" OR "Leg" OR "Legs" OR "Thigh\*" OR "Arm" OR "Arms" OR "Brachium\*" OR "Axilla\*" OR "Underarm\*" OR "Armpit\*" OR "Elbow\*" OR "Forearm\*" OR "Antebrachium\*" OR "Hand\*" OR "Finger\*" OR "Thumb\*" OR "Thenar" OR "Wrist\*" OR "Joint\*" OR "Articula\*" OR "Iliopsoas" OR "Psoas" OR "Coracoacromial" OR "Bursa\*" OR "Tibiofibular" OR "Planta\*" OR "Palmar\*" OR "Palma manus" OR "Fibrocartilage\*" OR "Capsule\*" OR "Synovi\*" OR "Menisc\*" OR "Semilunar cartilage\*" OR "Ligament\*" OR "Volar plate\*" OR "Pubic symphys\*" OR "Gelnoid labrum" OR "Temporomandibular" OR "TMJ" OR "Carpus" OR "Osteoplasty" OR "Osteoconduction\*" OR "Osseointegration\*" OR "Osseo-integration\*" OR "Osseous integration\*" OR "Cornerstone(device)" OR "Hydroset" OR "Orthop\* endoprosthesis " OR "Repiphysis" OR "Endosseous healing\*" OR "Ainhum" OR "Dactylolys\*" OR "Periodontal resorption\*" OR "Osteolys\*" OR "Acro-osteolysis" OR "Acroosteolysis" OR "Hajdu-cheney" OR "Cheney syndrome\*" OR "Arthrodentoosteodysplasia\*" OR "Gorham\*" OR "Prosthetic rib system\*" OR "Extension prosthes\*" OR "Extension implant\*"

## Concept 2: Titanium/Titanium alloy

"Titanium\*" OR "Titanum" OR "Ti" OR "Nitinol" OR "Ti6Al4V" OR "Ti-6Al-4V" OR "Ti-6Al-V4" OR "Tivanium" OR "Tytanium" OR "Protasul-64WF" OR "Hydroxy\*apatite-titanium" OR "HA-Ti" OR "(Ti0.95V0.05) Co2" OR "Ti-V-Co" OR "TiNb13Zr13" OR "titanium-13-niobium-13-zirconium" OR "Ti-13Nb-13Zr" OR "Ti-6Al-7Nb" OR "Ti6-Al7-Nb" OR "Ti6Al7Nb" OR "Protasul 100" OR "SN 56512" OR "SN-56512" OR "Ti-Ni" OR "Nickel-titanium" OR "Ni-Ti" OR "Titanol" OR "Sentalloy" OR "Nitanium" OR "Ti-15Mo" OR "titanium-niobium-aluminum" OR "Ti-Nb-Al" OR "Ti-In-Nb-Ta" OR "Titanium-indium-niobium-tantalum" OR "Gold-titanium" OR "Au-Ti" OR "Titanium-nickel-cobalt" OR "Ti(50)Ni(48.7)Co(1.3)" OR "TiNiCo" OR "Titanium-Niobium-Hafnium" OR "Ti-Nb-Hf" OR "Titanium-niobium" OR "Ti5Al2.5Fe"

## Concept 3: 3D printing

"3D print\*" OR "3-D print\*" OR "3 D Print\*" OR "3 dimensional print\*" OR "3-dimensional print\*" OR "Three-dimensional print\*" OR "Three dimensional print\*" OR "Stereolithograph\*" OR "Stereo-lithograph\*" OR "Rapid prototyp\*" OR "Rapid proto-typ\*"



OR "Additive manufactur\*" OR "Additive layer manufactur\*" OR "Fuse deposit\*" OR "Fused deposit\*" OR "FDM" OR "Fuse filament fabricat\*" OR "Fused filament fabricat\*" OR "Fusion deposited model\*" OR "Fusion deposition model\*" OR "Powder bed fus\*" OR "Direct metal laser sinter\*" OR "DMLS" OR "Electron beam melt\*" OR "EBM" OR "Selective laser melt\*" OR "SLM" OR "Selective laser sinter\*" OR "SLS" OR "Robocast\*" OR "Robo-cast\*" OR "Direct ink writ\*" OR "DIW" OR "SLA" OR "Bioprint\*" OR "Bio-print\*"