

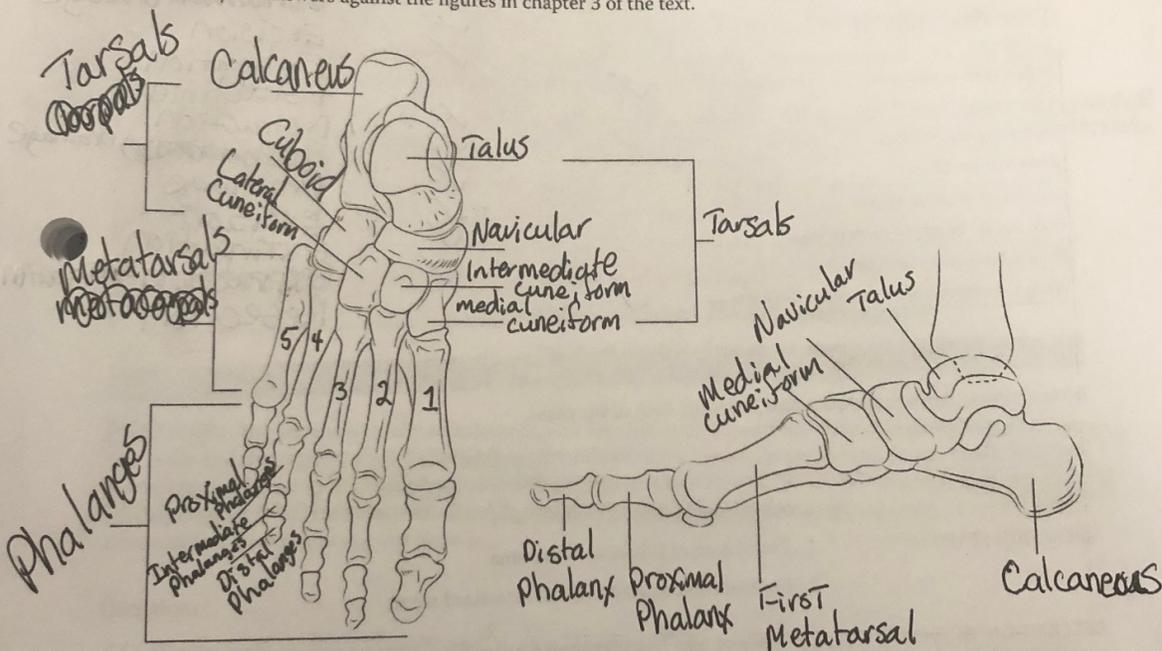
Simon Inferrera
ICD-10-PCS Coding
Week 2 Case Studies

Chapters 3 and 4

Root Operations that Take Out All/Part or Take Out Solids/Fluids/Gases

Anatomy Knowledge Check

Instructions: Enter the names of the anatomical structures shown in the following drawings. Upon completion, check your answers against the figures in chapter 3 of the text.



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Code Building: Root Review

Instructions: For the procedures listed below, first designate if the objective is to take out a body part or material around a body part by placing a check mark in the applicable column. Then fill in the root operation.

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Procedure	Take Out Body Part?	Take Out Material from Body Part?	Root Operation
Nephrectomy	✓	✓	Resection
Kidney stone removal		✓	Extirpation
Lumbar puncture		✓	Drainage
Fulguration of wart		✓	Excision
Hemicolectomy		✓	Excision
Dilation and curettage		✓	extraction
Drain placement for pleural effusion		✓	Drainage
Evacuation of hematoma		✓	Drainage
Biopsy of breast		✓	Excision
Removal of sebaceous cyst of armpit		✓	Excision
Polypectomy of sigmoid colon		✓	Excision
Lithotripsy		✓	Extirpation
Below knee amputation	✓		Detachment
Laser coagulation of nerve		✓	Destruction
Declotting of AV fistula		✓	Fragmentation
Bone marrow biopsy		✓	Drainage
Excision of left lobe of liver		✓	Excision
Core needle biopsy of thyroid tissue		✓	Extirpation
Removal of pebble from ear		✓	Excision
Wedge resection from right upper lobe of lung	✓		Resection

Code Building Exercises

Instructions: Answer the questions following each of the cases.

Exercise 1:

- DIAGNOSIS:** Subdural hematoma, left hemisphere
- OPERATION PERFORMED:**
1. Evacuation of subdural hematoma
 2. Implantation of a subdural externalized shunt

DESCRIPTION OF OPERATION: The patient was brought to the operating room in the supine position after induction of general endotracheal anesthesia. The head was placed in a gel donut on a horseshoe. Frontal areas were shaved, prepped and draped in standard sterile fashion using a Loban drape. A long line of incision was marked bilaterally in the frontal region and infiltrated with 1/2 percent lidocaine with 1:200,000 epinephrine. The skin incision was made in the frontal region down to the pericranium. Subperiosteal dissection was carried out. A burr hole was created and a craniectomy was extended.

The dura was opened and the dural leaflets were obtained. Subdural space was copiously irrigated with normal saline until the egress was clear. A 35-cm ventriculostomy catheter was brought into the field and inserted into the subdural space without difficulty. This was now brought out through the original burr hole,

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tunneled under the skin and brought out of the skin through a separate incision. This was then secured to the skin and connected to an externalized drainage bag. Attention was directed to reconstruction of the cranial opening. The reconstruction was carried out using the Lorenz plating system and titanium microscrews for cranioplasty. The wound was irrigated and closed in the usual fashion using 2-0 Vicryl for the deeper layers and staples for the skin. Sterile dressings were applied.

Questions:

1.1. Which root operation is assigned for the evacuation of the subdural hematoma?

Drainage

1.2. Is a separate code assigned for the externalized shunt? *a separate operation.*

Yes ~~NO~~, because it is ~~not~~ as part of the procedure.

1.3. Is a separate code assigned for the craniectomy?

NO, because it is a part of the operation.

1.4. A Lorenz plating system and titanium microscrews are used to perform a cranioplasty. Is a code for the insertion of an internal fixation device into the skull assigned for this case?

NO, because the shunt code has a character for device assigned.

1.5. What code(s) should be assigned?

00C40ZZ, 009400Z

Exercise 2:

PRE- AND POSTOPERATIVE DIAGNOSIS:

Anterior mediastinal mass

PROCEDURE:

Median sternotomy and extirpation of mass

FINDINGS:

The mass was left of the pulmonary artery and was filled with thick, milky fluid with calcifications.

PROCEDURE: The patient was fully anesthetized, and the chest was prepped and draped. A midline sternotomy was made and the anterior dissection was begun by reflecting the thymic fat pad off the pericardium. The right thyrothymic tract was completely freed. Blunt dissection continued to the left until the tumor was fully mobilized and excised. The tumor was removed from the operative field for permanent pathology. Hemostasis was achieved and the sternotomy was closed.

Questions:

2.1. Did the surgeon use the term "extirpation" according to the ICD-10-PCS definition? Why or why not?

Yes, because it was cutting out solid matter from a body part.

2.2. What root operation should be assigned?

Extirpation

2.3. What code(s) should be assigned?

02CR0ZZ

Exercise 3:

PREOPERATIVE DIAGNOSIS: Dyspnea
 POSTOPERATIVE DIAGNOSIS: Mucus plug in right upper lobe bronchus
 PROCEDURE: Bronchoscopy
 INDICATION: Rule out inhaled foreign body and pneumonia

PROCEDURE DESCRIPTION: The flexible bronchoscope was passed through the oral cavity. A very large mucus plug was noted in the right upper lobe bronchus and this was cleared with a balloon using pullback. The tracheobronchial tree was examined and no other obstructions or foreign bodies were found.

Questions:

- 3.1. Is the mucus plug part of the patient's body part or is it an abnormal by-product of a bodily function?
It is an abnormal buildup of mucus in the airways
- 3.2. Which group of root operations should be used to select the root operation for coding?
Taking out solids/liquids/gases from a body part and not the body part itself. something that doesn't belong there.
- 3.3. Which root operation is assigned?
Drainage
- 3.4. What code(s) should be assigned?
OB970Z

Exercise 4:

PREOPERATIVE DIAGNOSIS: Enlarging fibroid uterus, symptomatic
 POSTOPERATIVE DIAGNOSIS: Enlarging fibroid uterus, symptomatic
 PROCEDURES PERFORMED: Exploratory laparotomy, supracervical abdominal hysterectomy, bilateral salpingo-oophorectomy
 SPECIMENS: Ovaries, fallopian tubes, and uterus

DESCRIPTION OF PROCEDURE: The patient was taken to the operating room and placed under general anesthesia. She was prepped and draped in the normal sterile fashion. A Pfannenstiel skin incision was made and carried through the underlying layer of fascia. The rectus muscles were elevated and split in the midline. The peritoneum was identified, elevated, entered and stretched laterally.

The uterus revealed the enlarged uterine fibroids consistent with her preoperative exam and ultrasound. The ovaries and fallopian tubes were normal and consistent with menopause. The round ligaments were ligated, cut and held. The ureters were identified bilaterally and protected. The ovarian pedicles were free tied and stitched for excellent hemostasis. The uterine arteries were skeletonized, clamped, transected, and suture ligated. The cardinal ligament was clamped, transected, and suture ligated. The patient 17specimen and the specimen was handed off the table. V-lock suture was used to oversee the cervix.

The entire pelvic cavity was copiously irrigated and explored. The peritoneum was closed with 3-0 Vicryl. The rectus muscles were brought together with a #1 interrupted and the skin was then closed in layers.

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Questions:

4.1. The surgeon identified one of the specimens as the "uterus." In this procedure, did the surgeon mean only the uterus, or the uterus and cervix? Which documentation supports your answer?

The uterus and cervix. The utereters were identified bilaterally and protected.

4.2. What code(s) should be assigned?

ODJW0ZZ, OUT94ZZ, OUB74ZZ.

Case Studies

Instructions: Assign ICD-10-PCS codes to the following cases.

Case 1: Operative Report

PREOPERATIVE DIAGNOSIS: Suspicious lesions, right main bronchus

POSTOPERATIVE DIAGNOSIS: Carcinoma, in situ, right main bronchus

INDICATION: Previous bronchoscopy showed two suspicious lesions in the main bronchus. Laser photoresection is planned for destruction of these lesions because bronchial washings obtained previously showed carcinoma in situ.

PROCEDURE Following general anesthesia, a rigid bronchoscope is inserted and advanced through the larynx to the main bronchus. The areas were treated with Nd:YAG laser photoresection. The patient was awakened and returned to the recovery room in satisfactory condition.

OB538ZZ

Case 2: Operative Report

PREOPERATIVE DIAGNOSIS: Ruptured spleen with hemoperitoneum and secondary peritonitis

POSTOPERATIVE DIAGNOSIS: Ruptured spleen with hemoperitoneum and secondary peritonitis

PROCEDURES PERFORMED:

1. Exploratory laparotomy
2. Splenectomy
3. Evacuation of hemoperitoneum
4. Placement of drain in the left upper quadrant

INDICATION FOR PROCEDURE: The patient fell almost two days ago and experienced increasing left upper abdominal pain. The patient became disoriented and fell again about three hours ago, necessitating immediate transfer to the hospital. An apparent subcapsular hematoma of the spleen was suffered during the first fall and was ruptured during the fall earlier today.

PROCEDURE: The patient was taken emergently to the operating room. After successful induction of general anesthesia, the abdomen was prepped and draped using the normal sterile technique. The abdomen was opened through a vertical midline incision. The patient had massive hemoperitoneum with about 1000 ccs of liquid, clot,

and blood in the abdomen, and about 500 ccs of solid clot in the left upper quadrant that appeared to be over 24 hours old. The spleen was completely dissected from its capsule by the hematoma. There was erythema of the peritoneum in the left upper quadrant consistent with localized peritonitis due to the hematoma and hemoperitoneum. The abdomen was carefully inspected and all solid matter and clots were removed. There was bleeding from the helium of the spleen. It was clamped with large Peon clamps and the splenic pedicle was divided with scissors. The vessels were ligated with #2 Vicryl ligatures, and the spleen was removed. There was good hemostasis. There were bits of splenic tissue all over the abdomen, which were removed as thoroughly as possible. The abdomen was then copiously irrigated. All other abdominal structures were intact. The left upper quadrant was then drained with a #19 French round Blake drain and the abdomen was closed with #1 PDS and #2 Vicryl, and the skin was closed with staples. The patient was sent to the intensive care unit in stable condition.

07BPOZZ, 07TP4ZZ, 0W9G30Z, 0W9F3ZZ

Case 3: Operative Report

- PREOPERATIVE DIAGNOSIS:**
1. Sebaceous cyst to the back, about 1.2 cm diameter
 2. Dermatofibroma right thigh, centimeter diameter
 3. Dermatofibroma to the left lower leg, about centimeter diameter

POSTOPERATIVE DIAGNOSIS: Same

- PROCEDURE PERFORMED:**
1. Excision of the sebaceous cyst of the posterior mid back, repair 1.5 cm long
 2. Excision of the dermatofibroma of right thigh and left leg, repair each about 1.5 cm long

HISTORY: This 48-year-old female was seen with history of dermatofibroma to the left leg and the right leg. Recently enlarged, pigmented. Patient also has a sebaceous cyst on the back, which is irritating. Patient was taken to surgery.

Under local anesthesia, the back, right leg and left thigh were prepped and draped, and the area was infiltrated 1 percent Xylocaine with epinephrine. Lesion of the back was elliptically marked, and the skin was incised, deepened to deeper fascia. The cyst was excised and sent to pathology. Skin was undermined, both superior and inferior aspect. Repair was completed with a #5-0 PDS suture and Dermabond was applied.

Then the right thigh and left leg prepped and draped. Both areas infiltrated 1 percent Xylocaine with epinephrine, and the skin lesion of the right leg was elliptically excised and sent to pathology. Skin was undermined both medial and lateral aspect, and the skin was approximated. Repair was completed with a #5-0 PDS suture and Dermabond applied; and similarly, left leg skin lesion was elliptically excised and sent to pathology. Skin was advanced, and a repair was done with a #5-0 PDS suture and Dermabond was applied. Wounds dressed firmly. Patient has been transferred to recovery room fully awake and conscious.

0JBOZZ, 0JBLOZZ, 0JBM0ZZ

Case 4: Operative Report

- PREOPERATIVE DIAGNOSIS:** Menometrorrhagia, leiomyoma of the uterus
- POSTOPERATIVE DIAGNOSIS:** Menometrorrhagia, leiomyoma of the uterus
- PROCEDURE PERFORMED:** Hysteroscopy with fractional dilation and curettage for evaluation

DESCRIPTION OF PROCEDURE: Under IV sedation, the patient was placed in the lithotomy position. The vagina and perineal area were prepped and draped in the usual manner. Pelvic examination revealed that the cervix appeared to be normal. There was menstrual bleeding in the cervical os. The uterus appeared to be enlarged to about 12 weeks' gestational size and slightly irregular. No mass or cyst palpable in the adnexa. The anterior cervical lip was grasped with a single-tooth tenaculum for traction. Paracervical block was injected at the 5 and 5 o'clock positions of the cervix. Uterine cavity was then sounded and measured about 10 to 11 cm in depth. The cervical os was then carefully dilated with a Pratt dilator up to a #23. A 6.5-mm operative hysteroscope was gently introduced into the cervix and into the uterine cavity utilizing room-temperature saline as expansion media. The scope was then connected to the TV monitor for direct vision. The findings revealed that the cavity of the uterus appeared to be enlarged and distorted and the uterine wall was not smooth. It appeared to be compressed by intramural leiomyoma. A small intrauterine polyp was identified and removed for biopsy. The endometrium appears to be thick and fluffy. Then the scope was withdrawn and a small sharp curette was used to curette the endometrium. A moderate amount of endometrial tissues were obtained, which were sent for histological examination. The cavity appears to be very irregular from curettage. This concluded the procedure. All instruments were removed and the patient left the OR in good condition.

OUDB8ZX

Case 5: Operative Report

PREOPERATIVE DIAGNOSIS: Left orbital pseudotumor

POSTOPERATIVE DIAGNOSIS: Left orbital pseudotumor

OPERATION: Anterior orbitotomy with a biopsy of lacrimal gland, left orbit

SURGICAL INDICATIONS: The patient is a 10-year-old boy with a two-year history of chronic inflammation of the left orbit, including swelling of the medial and lateral recti muscles and the ipsilateral lacrimal gland, and Tenon's capsule. Previous diagnostic studies included a normal CBC, C-reactive protein (less than 0.1), and C-ANCA and P-ANCA, which were negative, suggesting there was no underlying vasculitis. Because of continued chronic inflammation for which he will probably need oral steroids, pretreatment biopsy of involved tissue was recommended. Brief review of the CT scan revealed that there was considerable enlargement of the lacrimal gland in the left orbit, therefore biopsy of this tissue was recommended.

SURGICAL PROCEDURE: The child was brought to the operating room after adequate preoperative medications. He was induced with face mask anesthesia, at which time an intravenous line was inserted; cardiac monitor, blood pressure cuff, EKG leads, and pulse oximeter were attached. The child was then intubated and maintained with an appropriate combination and mixture of anesthetic gases and oxygen compatible with general surgery. His face was prepared and draped in the usual sterile fashion.

Inspection of the left eyelid revealed that there was no crease. There was proptosis of the ipsilateral globe with fullness of the left upper eyelid. There seemed to be a previous scar in the left upper eyelid. Therefore, the decision was made to position the anterior orbitotomy on the previous left upper eyelid scar. Therefore, approximately a 2 cm area was demarcated with a marking pen in the superotemporal aspect of the upper eyelid above the area where the eyelid crease would normally be. The subcutaneous tissue was infiltrated with 1 percent Xylocaine with epinephrine. A #67 Beaver blade was used to incise the eyelid skin and superficial orbicularis. Prior to doing this, the eyelid was put on stretch by putting a 6-0 silk through the lash line and pulling the upper eyelid taut. Then the eyelid skin was tented up with small muscle hooks. The orbicularis muscle was incised centrally, and then the incision in the orbicularis was extended to the medial and lateral margins of the skin incision. Hemostasis was obtained with bipolar cautery. The sharp dissection was continued posteriorly to the level

of the orbital septum. The area of the orbital septum just at its junction with the lateral orbital rim was exposed using Ragnell retractors. The orbital septum was then incised and retracted. One could immediately see the orbital portion of the lacrimal gland prolapsed through the wound. The pseudocapsule of the lacrimal gland was separated on the posterior aspect of the gland. A small amount of tissue was tented up on a forceps and excised using the #67 Beaver blade. The tissue was immediately sent to the histopathology laboratory as a fresh specimen for appropriate histopathology and immunohistochemistry as indicated. Hemostasis was obtained with digital pressure and topical application of Avitene.

Once hemostasis was obtained, the wound was closed in a two-layered approach. First a deep subcutaneous and orbicularis muscle was closed with 5-0 Vicryl and then the skin was closed with several interrupted 6-0 plain. Topical ointment was placed on the wound. The child was then weaned from general anesthesia, extubated, and brought to the recovery room in good health without complications.

O 8BWOZX

Case 6: Operative Report

PREOPERATIVE DIAGNOSIS: Peritonitis
POSTOPERATIVE DIAGNOSIS: Peritonitis
PROCEDURE PERFORMED: Exploratory laparotomy with small-bowel resection
ESTIMATED BLOOD LOSS: 100 mL

FINDINGS: Upon entry into the abdominal cavity, it was noted that the jejunum appeared significantly dilated and nonviable, necessitating small bowel resection.

DISPOSITION: Intubated, in guarded condition, to the recovery room

CLINICAL INDICATIONS: The patient is a 67-year-old male who was previously operated on in July of this year for possible high-grade small-bowel obstruction. He now complains of intermittent bilateral lower quadrant abdominal pain and underwent a CT scan, which demonstrated the possibility of pneumatosis intestinalis as well as intra-abdominal free air. Therefore, an upper GI with small-bowel follow-through was ordered, which demonstrated no passage of Gastrografin after a significant point in time. He also developed leukocytosis, which led to agreement for exploratory laparotomy. Informed consent was obtained.

DESCRIPTION OF PROCEDURE: The patient was taken to the operating room and placed on the table in supine position. The patient was then induced and successfully intubated by anesthesia staff. Both an NG tube and a Foley catheter were already in place, therefore, at that point in time, the abdomen was prepped and draped in usual sterile fashion. We then proceeded to make a midline laparotomy incision, including the previously lower midline incision. This was incised sharply obviously using a scalpel. Dissection of the underlying subcutaneous tissue and fascial layers was then achieved using Bovie cautery. Entrance into the abdominal cavity was obtained without any significant intra-abdominal fluid being encountered. The jejunum was significantly dilated and appeared nonviable, and it was felt that this part of the GI tract, even if it recovered, would be nonfunctional. Using a GIA stapler, a partial jejunectomy was performed. The mesenteric attachments were then taken down using the LigaSure. Once the specimen was freed, it was handed off and sent for permanent pathology. At that point in time, an enterotomy was made in the distal limb, and using a pull tip suction, the contents of the small bowel were decompressed. All the remaining small intestine appeared viable, and, therefore, at that point in time, a side-to-side, functional end-to-end stapled anastomosis was performed. Prior to closing, we thoroughly irrigated the abdominal cavity with 2 liters of normal saline. Hemostasis was verified prior to closure. However, we did have to reinforce the staple lines with running silk suture material to achieve adequate hemostasis. Once this was completed, the fascial edges

were then closed in a running fashion using PDS suture material. The small bowel contents were placed back into the abdominal cavity in their natural position without any twisting of the mesentery noted. Once the fascial edges were re-approximated, the subcutaneous tissue was irrigated and hemostasis achieved using Bovie cautery. The skin edges were then re-approximated using a skin stapler. At that point in time, the incision was cleansed, dried, and sterilely dressed. He was taken to the recovery room as mentioned intubated in guarded condition. At the end of the case, all instrument, needle, and sponge counts were correct.

ODT80ZZ

Case 7: Operative Report¹

PREOPERATIVE DIAGNOSIS: Carcinoma of the stomach

POSTOPERATIVE DIAGNOSIS: Carcinoma of the stomach with metastasis to the liver

CLINICAL HISTORY: This 62-year-old black female had been worked up by the Medicine service for masses in the epigastrium. A liver scan revealed multiple filling defects and an upper GI series revealed an antral lesion which was obstructing the fundus of the stomach.

OPERATION: Under general anesthesia, with the patient in the supine position, the abdomen was prepped and draped in the usual fashion. An upper midline incision was made and the peritoneal cavity entered. Generalized abdominal exploration revealed multiple large nodules with the substance of both lobes of the liver and a large ulcerating lesion in the area of the antrum of the stomach. Multiple nodes along the lesser and greater curvature of the stomach and the subpyloric area were positive clinically for tumor. The stomach was not adherent to the pancreas or any other structures, therefore, a distal gastrectomy was undertaken. The greater and lesser curvatures of the stomach were freed up as was the duodenum, and Payr clamps were placed along the mid-body of the stomach and the lower one-third was amputated, leaving the pylorus intact. This was reflected up and the left gastric arteries were ligated. The stomach was then transected in the usual fashion and the greater curvature tapered using a 2-0 chromic and an inverting suture of 2-0 silk. The distal lumen was free of tumor and this was then anastomosed in two-layer fashion to the pylorus using an inner running suture of 3-0 chromic and an outer interrupted 3-0 silk. Estimated blood loss during the procedure was approximately 300 ccs. The sponge count at the conclusion of the procedure was correct. The abdomen was closed with nylon retention and midline sutures of 0 silk. The skin was closed with interrupted 4-0 silk. The patient tolerated the procedure well.

ODB60Z

¹National Institutes of Health. 1993. *Self Instructional Manual for Cancer Registrars: Abstracting Medical Record: Patient Identification, History, and Examination*, 2nd Edition. <https://seer.cancer.gov/archive/training/manuals/Book5.pdf>.

Chapter

4

Root Operations that Cut or Separate, Put in or Put Back, or Move Body Parts

Code Building: Root Review

This chapter concentrated on root operations in group 3 that cut or separate, and in group 4 that put in, put back, or move body parts, while chapter 3 discussed the root operations in group 1 that take out some or all of a body part without replacement or group 2 that take out solids, fluids, or gases from a body part. Using the root operations in these four groups, assign the root operation to the procedure description.

Procedure

1. Cervical cordotomy
2. Cystoscopy with lithotripsy of ureteral stone
3. Thoracentesis
4. Laparotomy and hemicolectomy
5. Rupture of adhesions in left knee
6. Cryotherapy of warts on the back
7. Scalp advancement flap
8. Endarterectomy, Left Common Carotid Artery
9. Living liver transplant
10. Gastropexy for malrotation
11. Disarticulation of the right shoulder girdle
12. Biopsy of bone marrow
13. Replantation of right hand
14. Removal of melanoma of the forehead

Root Operation

- ~~Excision~~ Destruction
- Fragmentation
- Drainage
- Excision
- Release
- ~~Excision~~ Destruction
- Repair
- Excirpation
- Transplantation
- Reattachment
- Detachment
- Drainage
- Reattachment
- Excirpation

Code Building Exercises

Instructions: Answer the questions following each of the exercises.

Exercise 1:

DIAGNOSIS:

Nasal septal deviation, bilateral inferior turbinate hypertrophy

PROCEDURE PERFORMED:

Nasal septal reconstruction, bilateral coblation of the inferior turbinates

FINDINGS: Upon inspecting the nose, the patient has bilateral deviations with an anterior bowing of the septum to the right and posterior bowing to the left. Enlarged turbinates.

DESCRIPTION OF PROCEDURE: With the patient in the supine position, the head and body were draped in the usual fashion. The nose was decongested using topical Afrin on cottonoids, as well as injections of 1% Xylocaine with epinephrine. A left-sided mucoperichondrial flap was raised. Attention was then turned to the maxillary crest which was broad and deviated. The periosteum was raised bilaterally and relaxing cuts were made from the left side of the cartilage at the posterior and anterior. One central relaxing cut was made from the right side. The cartilage was relaxed into the midline and was then fixed in the midline using two transfixion sutures of 3-0 chromic. The incision was closed using 5-0 chromic and the mucoperichondrial flaps were reapproximated using a running mattress stitch of 4-0 plain gut.

Attention was then turned to the inferior turbinates. Using the nasal wand for the Coblator, two passes were made into each turbinate, one superior and one inferior. Two to three areas of coblation were performed with each pass at a setting of 4, each for 8-10 seconds. The nose was packed using folded Telfa gauze with bacitracin. A stitch of 3-0 silk was used anteriorly to support the packing. The patient tolerated this well and was transferred to the recovery room, extubated in stable condition.

Questions:

- 1.1. What is the intent of the procedure performed on the nasal septum?
To open the nasal passages by correcting the deviated septum.
- 1.2. What is the objective of the procedure performed on the nasal turbinates?
To reduce the nasal turbinates to improve breathing.
- 1.3. What clues are found within the report to help identify the approaches used in these procedures?
Bilaterally, Midline, relaxing cut.
- 1.4. What code(s) should be assigned?
09QMOZZ, 09TLOZZ

Exercise 2:

DIAGNOSIS: Trigger finger, tenosynovitis and pain, right long finger

PROCEDURE: Release with neurolysis of median digital nerve

DESCRIPTION: With the patient in the dorsal supine position and under adequate anesthesia, the entire right upper extremity was prepped and draped. The right upper extremity was exsanguinated with Esmarch and a tourniquet was inflated to 250 mmHg at the proximal right arm.

Attention was then directed to the right long finger. On the palmar aspect, a Brunner incision was made and opened in Z flap fashion. The subcutaneous tissue and fascia were incised. The palmar digital branch of the median nerve was identified, neurolysed, and retracted away from harm. The A-1 pulley was located and incised both proximally and distally, liberating the trigger of the flexor digitorum superficialis of the right long finger. The tourniquet was released. Bleeders were clamped and coagulated. The wound was infiltrated with 0.5% Sensorcaine at the palmar incision. The subcutaneous tissue was closed with 4-0 Vicryl and the skin with staples. The wound was dressed and a volar dorsal splint was put into position.

Questions:

- 2.1. Research the neurolysis procedure. What is the intent of this procedure?
To free nerve from local tissue restriction or adhesions.
- 2.2. Where does the body part key classify the flexor digitorum superficialis tendon?
Lower Arm
- 2.3. What is the next step?
Determine the approach.
- 2.4. Where is this tendon classified?
L-Tendons OLN Release Table
- 2.5. What code(s) should be assigned?
0AN50ZZ

Case Studies

Instructions: Assign ICD-10-PCS codes to the following cases.

Case 1: Operative Report

PREOPERATIVE DIAGNOSIS: Left radial shaft fracture.
POSTOPERATIVE DIAGNOSIS: Left radial shaft fracture.
OPERATIONS: Open reduction and internal fixation, left radial shaft with Synthes 7-hole dynamic compression plate.

DESCRIPTION OF OPERATION: After general anesthesia, the left upper extremity was prepped and a well-padded tourniquet was placed, elevated and exsanguinated with an Esmarch bandage. Tourniquet was inflated to 250 mmHg. An anterolateral incision was made over the fracture site and taken down through all of the layers to muscle. The radial artery and vein were identified and freed up. Care was taken to avoid damage to superficial radial nerve underneath the brachioradialis.

Hemostasis was achieved. A 15-blade scalpel was then used to incise the fracture site on the lateral aspect of the radius. The fracture site was easily seen, and cleared of soft tissue from the fracture ends. Bone-reduction forceps was then used to reduce the fracture and secure it. Correct alignment was confirmed with two views on x-ray. Lag screws were then placed x2. A compression plate was sized and bent for the volar aspect of the radial shaft. Correct placement was confirmed on x-ray. Five screws were placed in alternating order and correct placement re-confirmed following tightening. The tourniquet was released.

The wound was irrigated and closed with 0-Vicryl sutures. Local anesthetic was injected as the incision site. The wound was cleaned and covered with soft dressing.

~~0000000000~~ OPSJ04Z

Case 2: Operative Report

PREOPERATIVE DIAGNOSIS: Dupuytren's contracture, fifth finger, and fourth finger
POSTOPERATIVE DIAGNOSIS: Dupuytren's contracture, fifth finger, and fourth finger
OPERATION: Fasciotomies, right fifth finger, and right fourth finger

PROCEDURE IN DETAIL: The patient's right forearm and hand were prepared and draped sterilely. Local infiltration of Lidocaine and Marcaine 1 percent with epinephrine was done. Several incisions were made in the fifth finger and one in the fourth finger at the flexion crease of the proximal phalanx. After the incisions were made, the fibrous tissue was freed from the skin by blunt and sharp dissection and, when isolated, were excised. Some of the fibrous tissue was still left intact as the skin was too thin to skive it free from the normal and the abnormal tissue. As the tendon contractures were released, the finger extended more and more. The patient was asked to flex and extend his finger to ascertain normal motion of the two tendons involved. After releasing the fibrous tissue, the patient was able to fully extend all joints of the fifth finger and fourth finger. The wounds were irrigated and then sutured with 4-0 nylon in interrupted manner. Dry sterile dressing was applied over Xeroform gauze, followed by application of the rigid splint holding the patient's fourth and fifth finger fully extended.

OPNTOZZ

Case 3: Operative Report

PREOPERATIVE DIAGNOSIS: Arthrofibrosis right knee, several weeks status post right total knee arthroplasty
POSTOPERATIVE DIAGNOSIS: Arthrofibrosis right knee, several weeks status post right total knee arthroplasty
PROCEDURE: Manipulation under anesthesia

FINDINGS: The patient is 45-year-old female several weeks status post right total knee arthroplasty, with tissue adhesions not allowing more than 70 degrees of flexion, brought to the operating room today for the above procedure after discussion of the risks, benefits, and alternatives. Healing has otherwise been satisfactory, and the implant is functioning well.

DESCRIPTION OF OPERATION: The patient was given general anesthesia while supine. She had full extension. She had flexion only to 70 degrees. This was gently manipulated to 110-120 degrees. A solid end point was reached and no further manipulation was felt to be advisable. She was then awakened and transferred to the recovery area in good condition, having tolerated the procedure well.

OSSCXZZ

