Clinical Scenario Workbook:

2021 CPT® Edition

Reviewed by
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Introduction

JustCoding's Clinical Scenario Workbook: 2021 CPT® Edition contains 52 sample clinical cases to provide hands-on reinforcement of coding concepts. The cases range in difficulty, length, and medical specialty. They are designed to simulate real-life coding processes for training and assessing new coders or keeping skills sharp for experienced staff.

Each case includes operative reports based on real clinical scenarios. Cases offer a variety of documentation styles to reflect inconsistencies between different electronic health record systems and providers.

After reviewing the cases, coders should report the most applicable ICD-10-CM diagnosis codes and all relevant CPT procedural codes. Answer keys are included at the end of each chapter with the correct codes to report for each case. The answer keys were reviewed by HCPro's coding instructors and include:

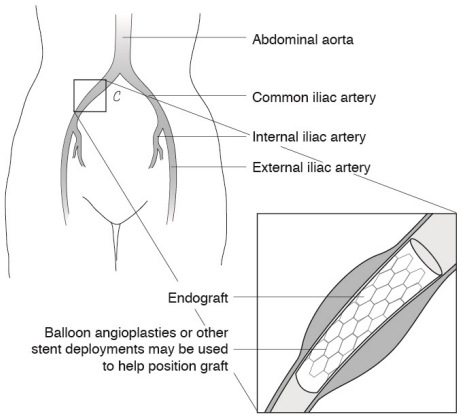
- A list of reportable ICD-10-CM and CPT codes, as well as rationale for using those codes.
- Applicable coding guidance, where appropriate, including references from the current *ICD-10-CM Official Guidelines for Coding and Reporting*, the *CPT Manual*, and the AHA's *Coding Clinic*.
- Instructions for looking up ICD-10-CM codes and certain CPT codes in the coding manuals.

All codes and guidance have been reviewed and are up to date as of January 1, 2021. The ICD-10-CM and CPT code sets as well as any guidance are subject to changes. These cases therefore should not be used as a guide for coding any real claims.

Cardiovascular System Scenarios

Case 1: Abdominal Aortic Aneurysm Repair

FIGURE 1.1 **Endovascular graft placement**



Provider Documentation

Preoperative diagnosis:

Abdominal aortic aneurysm (AAA)

Postoperative diagnosis:

AAA, right renal artery stenosis

Operation performed:

1. Endovascular repair of abdominal aortic aneurysm using fenestrated endograft system, Cook Z-Fen stent graft system

2. Reduction of a sliding inguinal hernia
3. Balloon angioplasty of right renal artery

Anesthesia:

General

Complications:

None

Procedure:

The patient was brought to the operative room. He underwent general anesthesia. The abdomen and lower extremities were prepped and draped in sterile fashion. Both femoral vessels were exposed through transverse bilateral inguinal incisions. There was a fairly large sliding hernia in the inguinal area with the hernia sac extending over the common femoral artery. Both femoral vessels were then exposed and circumferentially controlled proximally and distally. Both sides were then cannulated in retrograde fashion. There was a significant amount of tortuosity involving the iliac arteries.

We advanced a 6-French sheath on the left side, which was chosen as the contralateral side for delivery purposes. A Lunderquist stiff wire was advanced, allowing the iliac system to straighten out. At this time, we placed a 20-French Cook sheath in the left iliac system without difficulty. We proceeded to cannulate the hub of the 20-French sheath on the left side and successfully cannulated both renal arteries, placing a Rosen wire into the left renal artery without difficulty. There was stenosis at the origin of the right renal artery. This was cannulated and balloon angioplasty performed of the origin of the right renal artery using a 5 × 20 mm Viatrac balloon. In a similar fashion, Rosen wire was left in the right renal artery for marking purposes.

The main body of the device was chosen and had been designed using the patient's CT scan. There were two small fenestrations for each renal vessel with a scallop for the superior mesenteric artery. The graft diameter was 30 mm and it was two main body stents. This was oriented and successfully advanced. The device was then deployed using aligning markers. We then cannulated the distal aspect of the proximal graft and were able to successfully cannulate each of the small renal fenestrations extending out into the renal vessels with Glidewires.

Six-French Ansel flex sheaths were then advanced into the origin of both renal arteries. ICast 6 × 22 stents were then advanced into the origin of both renal vessels. Two stent links were left in the main body of the device. At this time, each renal stent was successfully deployed. A 10 × 20 mm angioplasty balloon was then used to complete the deployment at the very proximal end and anchor the stent in place.

The distal body was chosen and advanced via the right iliac artery. This was advanced with approximately one stent extending distally and successfully deployed down to the contralateral gate. The contralateral gate was successfully cannulated from the left iliac artery. We then completed our left iliac deployment using a 74 × 20 mm iliac limb. At this time, on the ipsilateral right side, the final two stents of the distal body were deployed, and we completed the deployment of the right iliac system using a 56 × 20 mm iliac stent. The Coda balloon was used for the junction between the components. At this time, a completion angiogram was performed. The superior mesenteric artery was patent as were both renal stents and renal perfusion. We angioplastied just distal to the renal stent deployment.

At this time, sheaths and wires were withdrawn. The arteriotomies were closed using 5-0 Prolene suture. The large hernia on the right inguinal area was reduced, and we used a mesh Bard plug placed and secured it anteriorly with Prolene suture. Each inguinal wound was then irrigated and closed with 2-0 Vicryl, 3-0 Vircyl, and 4-0 Monocryl subcuticular stitch. The patient was extubated in the operating room and transported to the recovery room in satisfactory condition. Total fluoroscopy time was 80.7 minutes. Total recorded Visipaque was 130 ml full strength.

Codes:

CPT:

ICD-10-CM:

NOTES

Cardiovascular System Answers

Answers for Case 1: Abdominal Aortic Aneurysm Repair

Codes and explanation:

CPT:

- 34847, endovascular repair of visceral aorta and infrarenal abdominal aorta with a fenestrated visceral aortic endograft and concomitant unibody or modular infrarenal aortic endograft and all associated radiological supervision and interpretation, including target zone angioplasty, when performed; including three visceral artery endoprostheses (superior mesenteric, celiac and/or renal artery[s])
- 34812-x 2, open femoral artery exposure for delivery of endovascular prosthesis, by groin incision, bilateral
- 49525 [–51], repair inguinal hernia, sliding, any age

Typical endovascular AAA grafts are tubular in shape because they are confined only to the aorta. For patients that have an aneurysm that extends below the renal arteries (possibly extending into the iliac arteries), it is imperative to have fenestrations or holes in the graft to accommodate the vessels that branch off the visceral aorta. Endovascular fenestrated AAA repairs of the visceral aorta (upper abdominal aorta containing the celiac, superior mesenteric and renal arteries) are complex procedures that involve the patient being seen in advance for high resolution cross sectional imaging (e.g., CT) and utilization of 3D software for modeling of the aorta. The graft is created as a patient-specific prosthesis based on the location and orientation of the patient's renal and visceral artery origins.

CPT selection is based on the extent of the aorta treated. If the endoprosthesis is limited to only the visceral vessels (superior mesenteric, celiac, and/or renal artery[s]), CPT codes 34842–34844 are assigned depending on the number of prostheses placed. However, if the device extends into the iliac arteries, then CPT codes 34845–34848 would be appropriate. These codes are also assigned based on the total number of visceral and/or renal arteries requiring placement of an endoprosthesis (i.e., bare metal or covered stent) through the aortic endograft fenestration.

In this operative report, the device involved the renal and the right iliac artery. There were a total of 3 vessels stented (endoprostheses) including the right/left renal arteries and the right iliac artery. The procedure code includes the balloon angioplasty of the target zone (where the grafts are being placed).

Codes 34841–34848 are used to report the placement of a fenestrated endovascular graft in the visceral aorta, either alone or in combination with the infrarenal aorta when performed for aneurysm, pseudoaneurysm, dissection, penetrating ulcer, intramural hematoma, or traumatic disruption. For reporting purposes, the following services are included in the work of codes 34841–34848 and therefore may not be reported separately:

- Balloon angioplasty within the target treatment zone of the endograft, either before or after endograft deployment
- Fluoroscopic guidance and radiological supervision and interpretation in conjunction with fenestrated endovascular aortic repair that includes angiographic diagnostic imaging of the aorta and its branches prior to deployment of the fenestrated endovascular device, fluoroscopic guidance in the delivery of the fenestrated endovascular components, and intraprocedural arterial angiography (e.g., to confirm position, detect endoleak, evaluate runoff) done at the time of the endovascular aortic repair
- Introduction of guidewires and catheters in the aorta and visceral and/or renal arteries

The open incision into both femoral arteries can be reported separately per the Fenestrated Endovascular Repair guidelines with CPT code 34812. CPT code 34812 is for unilateral procedures, but in the parenthetical notes, the AMA advises to report the CPT code 34812 twice when performed bilaterally.

The repair of the sliding inguinal hernia would be separately reported. Per the CPT guidelines, the use of mesh is not separately reported.

There are no National Correct Coding Initiative edits prohibiting this combination of codes from being reported together; therefore, modifier -59 would not be necessary. However, some payers may require modifier -51 (multiple procedures) for the professional services claim to adjust for multiple procedure discount purposes.

ICD-10-CM:

- I71.4, abdominal aortic aneurysm, without rupture
- K40.90, unilateral inguinal hernia, without obstruction or gangrene, not specified as recurrent
- I70.1, atherosclerosis of renal artery

In the ICD-10-CM Alphabetic Index, reference "Aneurysm, aortic, abdominal and Hernia, inguinal, unilateral (I71.4)." For the stenosis, main term is "Stenosis, artery, renal (I70.1)."

The abdominal aortic aneurysm (I71.4) codes to an HCC for vascular disease. Atherosclerosis of renal artery codes to an HCC for vascular disease.