Ad Hoc Committee on Defined Minimums for Case Logs Report

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APDVS Meeting
Chicago, Illinois
April 1-2, 2016
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Total Case Volume Requirements

• Residents in an integrated program should perform a minimum of 500 operations, to include 250 major vascular reconstructive procedures. (Core)
  – IV.A.6.c).(1) Operative experience in excess of 1500 total cases must be justified by the program director. (Core)

• Residents in an independent program should perform a minimum of 250 major vascular reconstructive procedures. (Core)
  – Operative experience in excess of 900 total cases must be justified by the program director. (Core)
Case Log Minimums
Vascular Surgery Defined Category Mappings

- Abdominal (30)
- Cerebrovascular (25)
- Peripheral (45)
- Complex (10)
- Endovascular Diagnostic Procedures (100)
- Endovascular Therapeutic Procedures (80)
- Endovascular Aneurysm Repair (20)
Abdominal (30)

- Aneurysm Repair - Open Repair Infrarenal A-I Aneurysm, Ruptured
- Aneurysm Repair - Open Repair Infrarenal A-I Aneurysm, Elective
- Aneurysm Repair - Repair Suprarenal Aortic Aneurysm
- Aneurysm Repair - Repair Thoracic Aortic Aneurysm
- Aneurysm Repair - Repair Thoracoabdominal Aortic Aneurysm

- Periph Obstructive - Aorto-Ilio/femoral endarterectomy
- Periph Obstructive - Aorto-ilio/femoral bypass, prosthetic
- Periph Obstructive - Aorto-ilio/femoral bypass, vein
- Periph Obstructive - Ilio-iliac/femoral endarterectomy
- Periph Obstructive - Excise infected graft, abdomen or chest
- Periph Obstructive - Repair graft-enteric/aorto-enteric fistula
- Abdominal Obstructive - Celiac/Sma Endarterectomy, Bypass
- Abdominal Obstructive - Renal Endarterectomy,

- Abdominal Obstructive - Embolectomy/thrombectomy, renal
- Trauma - Repair Thoracic Vessels
- Trauma - Repair Abdominal Vessels
- Venous - Portal-Systemic Shunt
Cerebrovascular (25)

- Cerebrovascular - Carotid Endarterectomy
- Cerebrovascular - Reoperative Carotid Surgery (Secondary Procedure Only)
- Cerebrovascular - Excise Carotid Body Tumor
- Cerebrovascular - Vertebral Bypass or Reimplantation/transposition
- Cerebrovascular - Direct Repair Aortic Arch Branches
- Cerebrovascular - Cervical Bypass Aortic Arch Branches
- Cerebrovascular - Embolectomy/thrombectomy by Neck or Thoracic Incision
- Cerebrovascular - Other Major Cerebrovascular - Def Cat Credit
  - (aneurysm or resection infected graft/bypass)
- Trauma - Repair Neck Vessels
Peripheral (45)

- Aneurysm Repair - Repair Femoral Aneurysm
- Aneurysm Repair - Repair Popliteal Aneurysm
- Obstructive - Femoral, Profunda Endarterectomy
- Obstructive - Femoral-Popliteal Bypass, Vein
- Obstructive - Femoral-Popliteal Bypass, Prosthetic
- Obstructive - Endarterectomy, superficial femoral, popliteal
- Obstructive - Infrapopliteal Bypass, Vein
- Obstructive - Infrapopliteal Bypass, Prosthetic
- Periph Obstructive - Infrapopliteal Bypass, Prosthetic
- Periph Obstructive - Excise infected graft, peripheral
- Periph Obstructive - Revise Arterial Bypass
- Periph Obstructive - Other Major Peripheral - Def Cat Credit
  - 37788 Penile revascularization, artery, with or without vein graft
  - 37790 Penile venous occlusive procedure
- Upper Extremity - Arm Bypass, Endarterectomy, Repair
- Extra-Anatomic - Axillo-Femoral Bypass
- Extra-Anatomic - Axillo-Popliteal-Tibial Bypass
- Extra-Anatomic - Femoral-Femoral Bypass
- Extra-Anatomic - Femoral-Femoral Bypass
- Trauma - Repair Peripheral Vessels
Complex (10)

- Aneurysm Repair - Repair Thoracoabdominal Aortic Aneurysm
- Aneurysm Repair - Repair Popliteal Aneurysm
- Aneurysm Repair - Repair Other Aneurysm - Def Cat Credit
- Cerebrovascular - Reoperative Carotid Surgery (Secondary Procedure Only)
- Cerebrovascular - Transcatheter Placement Carotid Artery Stent
- Cerebrovascular - Excise Carotid Body Tumor
- Cerebrovascular - Vertebral Bypass or Reimplantation/transposition
- Cerebrovascular - Direct Repair Aortic Arch Branches
- Cerebrovascular - Transluminal Balloon Angioplasty - Brachiocephalic
- Cerebrovascular - Transluminal Atherectomy - Brachiocephalic
- Cerebrovascular - Transcatheter Place of Intravasc Stent, Noncor.
- Cerebrovascular - Embolectomy/thrombectomy by Neck or Thoracic Incis
- Cerebrovascular - Other Major Cerebrovascular - Def Cat Credit
  - Aneurysm or infected graft excision
- Periph Obstructive - Aorto-ilio/femoral endarterectomy
- Obstructive - Aorto-ilio/femoral endarterectomy
- Obstructive - Aorto-ilio/femoral bypass, vein
- Obstructive - Excise infected graft, abdomen or chest
- Obstructive - Repair graft-enteric/aorto-enteric fistula
- Obstructive - Harvest Arm Vein (Secondary Procedure Only)
- Obstructive - Composite Leg Bypass Graft (Secondary Procedure Only)
- Obstructive - Re-Do Lower Extremity Bypass (Secondary Procedure Only)
- Obstructive - Other Major Peripheral - Def Cat Credit
  - Penile revascularization, artery, with or without vein graft
  - Penile venous occlusive procedure
- Abdominal Obstructive - Celiac/Sma Endarterectomy, Bypass
- Abdominal Obstructive - Renal Endarterectomy, Bypass
- Abdominal Obstructive - Embolectomy/thrombectomy, renal
- Abdominal Obstructive - Transluminal balloon angioplasty, renal
- Abdominal Obstructive - Transluminal atherectomy, renal
- Abdominal Obstructive - Transcatheter place of stent, renal artery
- Upper Extremity - Transcath place of intravasc stent, non coronary
- Trauma - Repair Thoracic Vessels
- Trauma - Repair Neck Vessels
- Trauma - Repair Abdominal Vessels
- Venous - Portal-Systemic Shunt
- Venous - Venous Reconstruction
- Venous - Repair A-V Malformation
Endovascular Diagnostic Procedures (100)

- **Endovascular Diagnostic - Arteriography**
- **Endovascular Diagnostic - Venography**
- **Endovascular Diagnostic - Angioscopy**
- **Endovascular Diagnostic - Intravascular Ultrasound**
Endovascular Therapeutic Procedures (80)

- **Cerebrovascular**
  - Transcatheter Placement Carotid Artery Stent
  - Cerebrovascular - Transluminal Balloon Angioplasty - Brachiocephalic
  - Cerebrovascular - Transluminal Atherectomy - Brachiocephalic
  - Cerebrovascular - Transcatheter Place of Intravasc Stent, Noncor.
    - 37215 Transcatheter placement of intravascular stent(s), cervical carotid artery, percutaneous; with distal embolic protection
    - 37216 Transcatheter placement of intravascular stent(s), cervical carotid artery, percutaneous; without distal embolic protection

- **Periph Obstructive**
  - Transluminal balloon angioplasty aorta or iliac
  - Obstructive - Transluminal balloon angioplasty aorta or iliac
  - Obstructive - Transluminal atherectomy aorta or iliac
  - Obstructive - Transcatheter placement intravasc stent aorta
  - Obstructive - Transluminal balloon angioplasty femoral-popliteal

- **Obstructive**
  - Transluminal atherectomy femoral-popliteal
  - Transluminal balloon angioplasty, tibioperoneal
  - Transluminal atherectomy, tibioperoneal
  - Transcatheter place of intravascular stent non-cor
    - Periph Obstructive - Transcatheter place of intravascular stent non-cor
    - Abdominal Obstructive - Transluminal balloon angioplasty, renal
    - Abdominal Obstructive - Transluminal atherectomy, renal
    - Abdominal Obstructive - Transcatheter place of stent, renal artery
    - Upper Extremity - Transcatheter place of intravasc stent, non coronary
    - Thrombolysis/Mechanical

- **Thrombectomy**
  - Transluminal mechanical thrombectomy
  - Thrombolysis/Mechanical
  - Thrombectomy - Thrombolysis, transarterial, transcatheter
  - Thrombolysis/Mechanical
  - Thrombectomy - Exchange of thrombolysis catheter

- **Miscellaneous Endovascular Therapeutic**
  - Endo place of iliac artery occlusion dev (sec)
  - Transcatheter arterial occlusion or embolization
  - Venous - Transluminal balloon angioplasty, venous
  - Venous - Transluminal mechanical thrombectomy, venous
  - Venous - Thrombolysis, transvenous, transcatheter
  - Venous - Interruption of IVC
Endovascular Aneurysm Repair (20)

• Aneurysm Repair - Endovascular Repair Abd Aortic/Iliac Aneurysm
• Aneurysm Repair - Endovascular Repair Abd Aortic/Iliac Aneurysm
• Aneurysm Repair - Endovascular Repair of Iliac Artery
• Aneurysm Repair - Endovascular Repair Thoracic Aortic Aneurysm
• Where is thoracoabdominal repair?
Case Log Minimums
Vascular Surgery Defined Category Mappings
LOTS OF OVERLAP

• Abdominal (30)
• Cerebrovascular (25)
• Peripheral (45)
• Complex (10)
• Endovascular Diagnostic Procedures (100)
• Endovascular Therapeutic Procedures (80)
• Endovascular Aneurysm Repair (20)
How the Case Log Appears to the ACGME and the Program Directors
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<th>RRC Area</th>
<th>RRC Procedure</th>
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<th>Number of Residents in the Nation: 122</th>
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<td><strong>Surgeon Fellow</strong></td>
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</table>

Statistics for each role (surgeon fellow, teaching assistant, and first assistant) include only procedures for primary credit. Secondary procedures are shown separately and include all roles.

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<table>
<thead>
<tr>
<th>RRC Area</th>
<th>RRC Procedure</th>
<th>Surgeon Fellow</th>
<th>Teaching Assistant</th>
<th>First Assistant</th>
<th>Secondary Procedures</th>
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</thead>
<tbody>
<tr>
<td>Endovas-Diag</td>
<td>Arterography</td>
<td>77.1 36 78</td>
<td>0.7 3 0</td>
<td>0.1 1 0</td>
<td>273.8 214 220</td>
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<tr>
<td></td>
<td>Venography</td>
<td>19.2 32 10</td>
<td>3.3 24 0</td>
<td>0.1 1 0</td>
<td>23.6 32 14</td>
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<tr>
<td></td>
<td>Angioscopy</td>
<td>0.4 3 0</td>
<td>0.0 0 0</td>
<td>0.0 0 0</td>
<td>1.4 6 0</td>
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<tr>
<td></td>
<td>Intravascular Ultrasound</td>
<td>1.6 3 1</td>
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<td>0.0 0 0</td>
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<tr>
<td></td>
<td>Subtotal - Endo-Diagnostic</td>
<td>98.3 49 103</td>
<td>4.0 25 0</td>
<td>0.2 1 0</td>
<td>310.1 233 272</td>
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<tr>
<td>Misc Vascular</td>
<td>Exploration of artery</td>
<td>3.2 4 2</td>
<td>0.0 0 0</td>
<td>0.0 0 0</td>
<td>19.8 29 7</td>
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<tr>
<td></td>
<td>Postop exp bleed, Thromb Infect</td>
<td>3.4 6 1</td>
<td>0.1 0 0</td>
<td>0.0 0 0</td>
<td>0.8 2 0</td>
</tr>
<tr>
<td></td>
<td>Major Vascular Ligation</td>
<td>3.8 3 3</td>
<td>0.1 1 0</td>
<td>0.0 0 0</td>
<td>1.0 2 0</td>
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<tr>
<td></td>
<td>Inject pseudoaneurysm</td>
<td>1.5 0 0</td>
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<td>0.0 0 0</td>
<td>0.1 0 0</td>
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<td>Spine Exposure</td>
<td>3.0 3 1</td>
<td>0.0 0 0</td>
<td>0.0 0 0</td>
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<td>Sympathectomy</td>
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<td>Lymphatic Procedure</td>
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<td>Other misc vascular proc</td>
<td>1.3 5 0</td>
<td>0.0 0 0</td>
<td>0.2 3 0</td>
<td>0.7 3 0</td>
</tr>
<tr>
<td></td>
<td>Subtotal - Misc Vascular</td>
<td>16.4 13 14</td>
<td>0.3 1 0</td>
<td>0.3 3 0</td>
<td>23.4 32 12</td>
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<tr>
<td>Vascular Access</td>
<td>A-V Fistula</td>
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<td>0.1 1 0</td>
<td>1.1 6 0</td>
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<td>A-V Graft</td>
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<td>Percutaneous-Other Access</td>
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<td>1.3 3 0</td>
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<td>3.5 6 1</td>
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<tr>
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<td>6.6 12 3</td>
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<tr>
<td>Amputations</td>
<td>Amputation, Digit</td>
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<td>1.5 2 1</td>
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<td>Amputation, Below Knee</td>
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<td>0.3 1 0</td>
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<tr>
<td></td>
<td>Amputation, Above Knee</td>
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<td>0.7 1 0</td>
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<tr>
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<td>0.0 0 0</td>
<td>0.0 0 0</td>
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<tr>
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<td>Amputation Closure, Revision</td>
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<td>0.1 0 0</td>
<td>0.0 0 0</td>
<td>0.0 0 0</td>
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<tr>
<td></td>
<td>Subtotal - Amputations</td>
<td>28.9 19 25</td>
<td>2.1 4 0</td>
<td>0.0 0 0</td>
<td>3.2 4 2</td>
</tr>
<tr>
<td>Total Minor</td>
<td>Total Minor</td>
<td>260.5 101 248</td>
<td>7.9 27 0</td>
<td>1.1 6 0</td>
<td>363.5 254 340</td>
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<tr>
<td>Total Operations</td>
<td>TOTAL</td>
<td>901.1 315 858</td>
<td>11.5 32 1</td>
<td>3.1 12 0</td>
<td>651.0 545 530</td>
</tr>
</tbody>
</table>

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Also a mandate to discuss

• Case Log Minimums, 0 – 5
  – Should these minimums be separate from the fellowship numbers? ✗
    No

  – Should there be numbers of the “core cases” that need to be required, (e.g., dialysis access, venous work, etc. typically done in the earlier years) for the integrated vascular surgery residency? ✗
    No
Additional Questions the Subcommittee Would Like to Pose

• Are EVAR minimum presently 20 cases adequate?  YES

• Upper extremity/AV access minimums should be mapped. (The committee felt some of these might even fall into Complex Cases, e.g., infected AV access, ruptured arteries, etc. Members also felt they represent both the real world experience fellows will need when entering practice, and demonstrate anastomotic and tunneling skills)  No
Other Additional Questions/Suggestions for minimum cases

• Should venous work be included as a mapped category? Minimum Case requirements?
  YES

• Is the a better system available to allow for the data entry, (and case counting) that we should be requesting of the ACGME?
  YES!
Presently there are not good ways to properly account for what element of training is gained from these secondary procedures.

• There is a fear amongst the fellows that secondary procedures do not hold the same weight.
  – Does an **iliac angioplasty with stenting** listed as secondary to the open common femoral endarterectomy mean the same thing as a **renal artery bypass** performed secondarily to the open AAA repair?
  – Many of the diagnostic procedures become secondary, because the primary listing is the intervention performed, but this must be listed.
  – Do they “game the system” by entering two procedures under as distinct cases to account for more significant secondary procedures? Are others doing this?
Program Director’s Dilemma, (and Fellows/Residents)

• There is no real-time view of the case logging to ensure what is put in comes out as what is desired, (e.g., as an angioplasty is entered, the angiogram associated with this isn’t automatically counted).

• The resident often is required to go back to re-enter data under a different category to have it credited for the minimum under the defined category mappings.
Guidelines for Case Log Entry

• A resident may be considered the Surgeon only when they can document a significant role in the following aspects of management
  – Determination or confirmation of the diagnosis
  – Provision of pre-operative care
  – Selection and accomplishment of the appropriate operative procedure
  – Direction of the post-operative care
Problems with Case Log Entry

• Searching for a CPT by its description is problematic.
  – CPT terminology not intuitive.
    • oftentimes a term physicians use may not be part of the actual code description.

• A bug in our search mechanism: It should be automatically adding a wild card to the beginning and end of the text entered.
  – E.g., if someone enters “endarterectomy” they should get more codes (including 35301) instead of the two currently showing. It turns out that there is a space being included before the search term so it is not finding all the codes containing endarterectomy unless there is a space immediately preceding it. Mr. Richter already started the process to correct this.
Other trouble with Case Log Entry

- Regarding the exposure codes.
  - Part of the problem, since there aren’t specific individual codes pertaining to exposure, we have used the same code that is used for the repair. The only difference is that it goes into a category indicating that it is for the exposure.
  - Part of the confusion is because these categories are under the same section as the repair codes (trauma).
  - If the resident enters the code directly, they will be prompted whether it should go in the exposure or repair category. For example, if they enter 35216, it will make them indicate if it is exposure of thoracic vessels or repair of thoracic vessels. I know some residents have expressed a concern that they shouldn’t be in the trauma category, but the RC mapped them there because this is where the repair codes fell. As I said, because it has been problematic and while there haven’t been many entries, the RC is looking at this again.
  - They are only available to residents in the integrated programs.
Our Committee has prompted work the ACGME/RRC to minimize work required for Case Log Entry

- Most of the information is entered via a dropdown (institution, attending, and the role).
- The year of the case and date default to the current value and only need to be changed if someone needs to back-enter a previous case. The only other information needed for entry is the case ID and appropriate code.
- Once they save a case, all of the information entered other than the case ID and code if they are making additional case entries is automatically entered. While there may be a brief learning curve the first time a resident enters data, it becomes very easy and quick to enter cases.
- *We are working to provide this information up-front to the trainee, as well as provide pre-designated drop-downs from the most frequently utilized codes.*
Work the ACGME/RRC has undertaken to minimize work required for Case Log Entry

• There was a problem in how the dropdowns of the procedure categories were displaying. It was cutting off the full text of the procedural category.

• *This has been fixed and will be part of the next release to our systems.*
  – The text will no longer be cutoff, so if the resident chooses aneurysm repair they will then see the full text of each of the sub categories: open repair infrarenal A-I aneurysm, elective; open repair infrarenal A-I aneurysm, ruptured etc.)
  – If they search then it will show each CPT(s) with its full description. It is important to note that the way the system is designed, for this type of search it will only show the CPTs that the RRC identified as appropriate for that particular category.
Multiple procedures is another issue that may be changed by the RC.

• The expectation for now is that residents should only be allowed to take credit for one procedure per patient on a given day.
• If multiple procedures are performed, they should enter the additional codes, but must choose one as the primary procedure. They do this by selecting one as the primary or credit procedure.
• More confusing for integrated vascular surgery program because of the ability to log their general surgery and vascular cases.
• The RC does look at the total for both primary (credit) and secondary procedures when evaluating whether someone met the minimum number of vascular procedures. That is why the defined category report shows both the primary and secondary numbers.
Guidelines for Multiple-Procedure operations

• Residents must record all procedures performed and indicate which procedure is to count as the primary procedure, (only one can be primary, the others are listed as secondary).

• When more than one resident is involved in the same patient/same day/same operation/same procedure, a senior resident may take credit as Surgeon, while the other resident may take credit as First Assistant; or, a senior resident may take credit as Teaching Assistant while the more junior resident takes credit as Surgeon Junior Years.
Guidelines for Multiple-Procedure operations

• If two residents perform different procedures on the same patient, (different CPT codes), then each may take credit as Surgeon*
  – keep in mind the four attributes of being Surgeon for the case, (i.e., pre-op, peri-op, post-operative care)
  – The mechanism for listing this is not yet available in the Case Log entry, which presently allows only one entry for each day
Conclusions from Defined Minimums for Case Logs Report

• While EVAR numbers were lower than committee liked, as a minimum, 20 remains at the SD range

• Add a venous category (20),
  – encouraging standard practice items such as EVLT/VNUS, sclerotherapy, phlebectomy.
  – Allow for complex case classification for complex venous work, e.g., IVC or iliac vein repair under Venous classification.
Our Mandate remains

• Assess if there are cases being performed that are not being given appropriate credit
  – e.g., many appropriate Abdominal Cases are listed under miscellaneous that need to be recategorized to categories consistent with major cases
    • Should there be minimums set for these?, e.g.
      – Spine exposure
      – Iliac conduit creation

• Rename “Abdominal” to “Torso” as a category

• Modification of ACGME case-by-case vascular lab entry to accept computer generated data collection, (a 500 case data entry requirement at present time)

• Harness technology to limit the task burden of the trainee while improving the data presentation to the PD
Additional Sub-committee recommendations – secondary goals for the Case Log System

- Provide a **real-time listing** of cases into the categories (mapping), as they are entered by the trainee. (software upgrade)
- **With the next version the systems will allow trainee to enter via a dropdown menu from previous menu entries** rather than having to hunt down a CPT code – (software upgrade)
- Work is ongoing to provide the new class of residents a “cheat sheet” of codes and case log entry guidelines that honed to their top 20 entries, and also will include pathways for the 5 hardest to find entries.
- Educate the trainee regarding CPT searching – provide this to them via the web as an alternative to the 21 page present guidelines from ACGME: https://www.acgme.org/Portals/0/PFAssets/ProgramResources/280_Case_Log_Coding_Guidelines.pdf?ver=2015-11-20-150650-490