Using PCAT's to Evaluate Resident Procedures

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AMERICAN ACADEMY OF FAMILY PHYSICIANS

Disclosures

- None

Objectives

- Review procedure training requirements for Family Medicine residency
- Become familiar with the Procedural Competency Assessment Tools (PCAT)
- Utilize PCAT to evaluate a procedure
- Discuss and propose best practices for summative evaluations of residents regarding procedural competencies

Accreditation Council for Graduate Medical Education

Family Medicine RRC

- Residents must receive training to perform clinical procedures required for their future practices in ambulatory and hospital environments. (Core) IV.A.6.r).
  - (1) The program director and family medicine faculty should develop a list of procedural competencies required for completion by all residents in the program prior to graduation. (Core) IV.A.6.r).
    - (1).(a) This list must be based on the anticipated practice needs of all family medicine residents. (Core) IV.A.6.r).
    - (1).(b) In creating this list, the faculty should consider the current practices of program graduates, national data regarding procedural care in family medicine, and the needs of the community to be served. (Core)

AAFP Clinical Services Performed by Physicians (as of December 31, 2015)

	Percentage
Skin Procedures (e.g., biopsies)	74.7
Musculoskeletal Injections	64.9
Spirometry	35.6
Endometrial Sampling	31.2
Obstetrics	17.6
Colposcopy	16.6
Cosmetic Procedures	8.9
Vasectomy	8.2
Cardiac Stress Testing	7.5
Ultrasound (OB)	7.5
Ultrasound (non-OB)	5.6
Flex Sigmoidoscopy	4.6
Echocardiography	4.3
Allergy Testing	3.7
Colonscopy	2.5
EGD	2.5
Nerve Conduction Study	2.4

Residency Review Committee for Family Medicine

2015- 2016 National Data Report (represents data/residents from previous academic year)

Responses to Question Regarding the Top 10 Most Frequent Procedures

Count of Occurrences	Description
422	Joint Injection/Aspiration
391	EKG Interpretation
336	I&D Abscess, Skin
312	Destruction of skin lesion
311	Pap Test Collection
290	Skin biopsies (punch shave)
267	IUC Insertion/Removal
232	Cerumen Disimpaction
193	Skin Tag Removal
177	Colposcopy
172	Wet Mount
172	Excisional Biopsy, Skin
162	Pelvic Exam
133	Contraception implant insertion and removal
112	Ingrown Toenail Surgery/Excision
110	Osteopathic Manipulation
97	Trigger Point Injection
87	Endometrial Biopsy
83	Newborn Circumcision
79	Spirometry
74	OB Ultrasound
69	X-ray Interpretation
62	NST/CST Interpretation
55	Vaginal Delivery
54	Laceration Simple with Sutures

Accreditation Council for Graduate Medical Educati

Residency Review Committee for Family Medicine

2015- 2016 National Data Report (represents data/residents from previous academic year)

Responses to Question Regarding the Top 5 Most Frequent Procedures All Residents Must Learn

Count of Occurrences	Description
387	EKG Interpretation
333	Pap Test Collection
330	Joint Injection/Aspiration
277	I&D Abscess, Skin
243	Skin biopsies (punch shave)
242	Vaginal Delivery
228	Laceration Simple with Sutures
186	Pelvic Exam
160	Excisional Biopsy, Skin
153	Destruction of skin lesion
145	Newborn Circumcision
139	Wet Mount
127	X-ray Interpretation
106	IUC Insertion/Removal
91	Cerumen Disimpaction
91	Cast/Splint Application
71	Colposcopy
70	Ingrown Toenail Surgery/Excision
67	NST/CST Interpretation
63	Endometrial Biopsy
62	Skin Tag Removal
61	Contraception implant insertion and removal
56	Local anesthesia
57	Spirometry
56	OB Ultrasound

Procedural Training in US Family Medicine Residencies: A National Survey

Kate DuChene Thoma, MD, MME and John Ely, MD

Department of Family Medicine

INTRODUCTION

- Family Medicine residents must receive training to perform wide variety of clinical procedures required for their future practices in ambulatory and hospital environments [1]
- Program director should develop list of procedural competencies required for completion by all residents of the program [1]
- Draft 2014 ACGME RRC Family Medicine curriculum requirements included list of required 18 procedures
- Little information is known about the number of procedures currently performed by US family medicine residents

METHODS

- National survey of residency programs using the Association of Family Medicine Residency Director (AFMRD) list-serve
- Program directors asked to forward link to the 38-item Qualtrics questionnaire to their residents
- Single reminder email sent 4 weeks after initial request

BACKGROUND

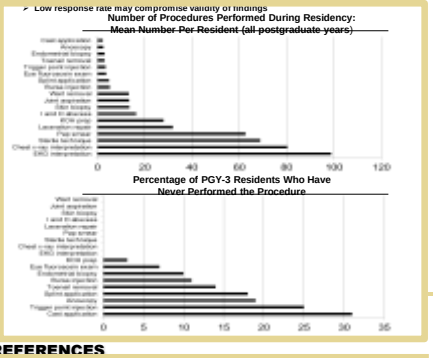
- Scope of practice of current family physicians variable

AAFP Performance of Procedures by Family Physicians (as of April 2011) [3]

Dermatologic Procedures	87.3%
Circumcision	39.3%
Colposcopy	29.2%
Holter Monitoring	23.9%
Formal EKG Interpretation	44.4%
Colposcopy	19.1%
Cardiac Stress Testing	11.7%

RESULTS

- Response rate 205/3200 (6%, estimated)
- Pap smear and sterile technique universally performed
- Some procedures not performed at all by end of residency
  - 14/72 (19%) PGY-3 residents reported zero anoscopies
  - 18/72 (25%) PGY-3 residents reported zero trigger-point injections
  - 22/72 (31%) PGY-3 residents reported zero cast applications
- Geographic variation in number of procedures performed during residency
- Low response rate may compromise validity of findings



REFERENCES

1. ACGME program requirements for Graduate Medical Education in Family Medicine effective July 1, 2014. Retrieved from http://www.acgme.org/acgmeweb/Portals/0/PFAssets/ProgramRequirements/120_family_medicine_07012014.pdf
2. Kelly, B.F., Sicilia, J.M., Forman, S., Ellert, W., & Nothnagle M. (2009) Advanced Procedural Training in Family Medicine: A Group Consensus Statement. *Family Medicine* Jun;41(6):398-404.
3. *Family Medicine Facts* - Table 12: Performance of (and Reasons for Not Performing) Diagnostic Procedures in Family Physicians'

DISCUSSION AND CONCLUSIONS

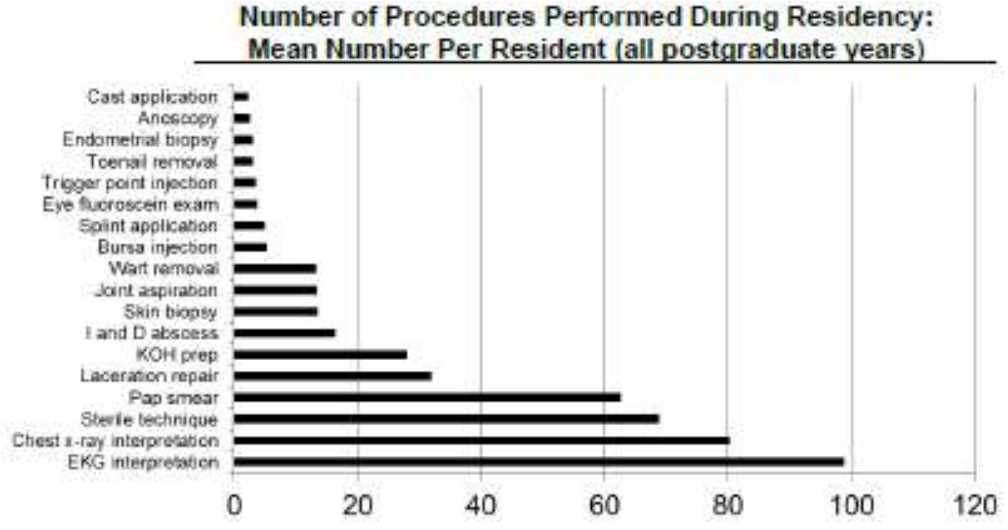
- U.S. Family Medicine resident appear to have more than enough exposure to several procedures but insufficient exposure to other
- Resident experience should match educational recommendations

- STFM Group on Hospital Medicine and Procedural Training developed Group Consensus Statement on scope of procedural training for family medicine [2]

	All residents must be able to perform, but documentation not required	All residents must be able to perform independently by graduation
Skin	Remove corn/callous Fungal studies (KOH) Laceration repair with tissue glues	Biopsies (punch, excisional, incisional) Cryosurgery I&D abscess Simple laceration with sutures
Musculoskeletal		Initial management of simple fractures • Closed reduction • Splints • Large joint, bursa, ganglion cyst, trigger point Reduction of nursemaid's elbow
Urgent Care	Foreign body removal--ear & nose Fish hook removal Ring removal Phlebotomy	Lumbar puncture Eye procedures • Fluorescein exam • Foreign body removal Anterior nasal packing for epistaxis
Gastrointestinal	Nasogastric tube Fecal disimpaction Digital rectal examination	Anoscopy Excision of thrombosed hemorrhoid I&D of perirectal abscess
Genitourinary	Urine microscopy Bladder catheterization	Newborn circumcision

NEXT STEPS

- Milestones will require competency assessment of residents with more focus on resident performance and less on the number of procedures performed
- Residents need more musculoskeletal procedural training
- Develop national data similar to ACGME ADS to monitor scope of procedural training for Family Physicians and incorporate into procedural training for residents



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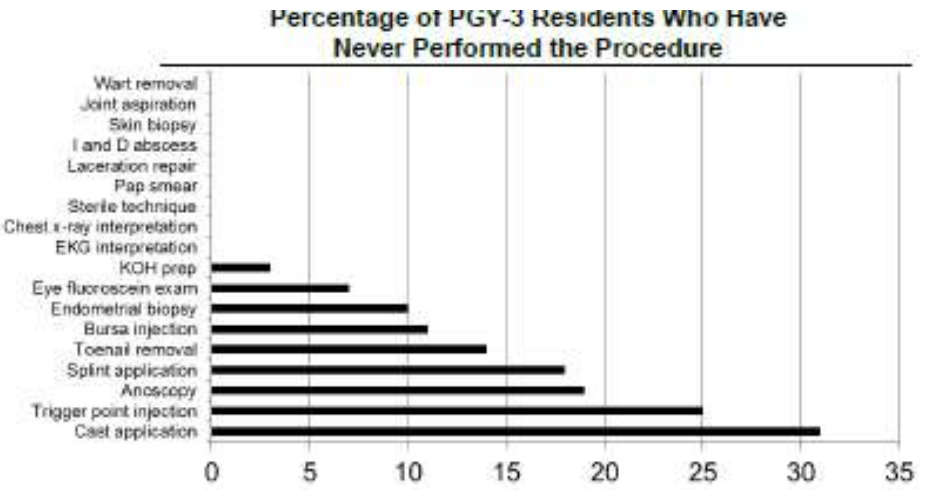

STFM
SOCIETY OF TEACHERS OF FAMILY MEDICINE

Advanced Procedural Training in Family Medicine: A Group Consensus Statement

Barbara F. Kelly, MD; Julia M. Sicilia, MD; Stuart Forman, MD; William Ellert, MD; Melissa Nothnagle, MD

Background and Objectives: *Family medicine does not have a defined scope of procedures or universal standards for procedural training. This contributes to wide variation in family physician training and difficulties obtaining hospital privileges for advanced procedures. The Society of Teachers of Family Medicine (STFM) Group on Hospital Medicine and Procedural Training previously developed a list of core procedures to be taught in all family medicine residencies. The group recommend to develop a consensus list of advanced procedures within the scope of family medicine.* Methods: *Working from a master list of procedures, the group, which consisted of 21 family medicine educators, used a multi-voting process to identify advanced procedures within the scope of family medicine.* Results: *The group generated a list of 36 advanced procedures and added nine procedures to the previously created list of core procedures.* Conclusions: *The STFM Group on Hospital Medicine and Procedural Training proposes a list of advanced procedures within the scope of family medicine and urges family medicine governing bodies to use this list to define and standardize the scope of procedural training and practice in family medicine.*

(Fam Med 2009;41(6):398-404.)

Table 1

Procedure Categories, Revised[21]

A: All family medicine residency programs must provide training in each of these procedures.
- A0: Residents will have the ability to perform these basic procedures either upon graduation from medical school or through normal residency experience. These procedures do not require specific documentation of training or numbers performed.
- A1: All residents must be able to perform these procedures independently by graduation.
- A2: All residents must have exposure to these procedures and be given the opportunity to be trained to perform them independently by graduation.

B: These procedures are within the scope of family medicine and require focused training for residents to be able to perform independently by graduation.

C: These procedures are within the scope of family medicine and may require additional training beyond the usual 3-year training for family physicians to perform independently.

Following is a list of procedures that will be encountered in residency. It is not an exhaustive list but does include most procedures our residents experience.

A0: Procedures all residents must be able to perform but documentation not required
A1: Procedures all residents must be able to perform (documentation required)
A2: Procedures residents will be exposed to and will have the opportunity to gain proficiency

The University of Iowa
Family Medicine Residency Policy Manual

Category	A0 Procedures	A1 Procedures	A2 Procedures
Skin	• Cryotherapy of skin lesion • Skin tag removal • Shave corn/callus • Laceration repair • Wart treatment (other than cryotherapy)	• Punch biopsy of skin • Excisional biopsy • Nail excision with and without matrix destruction • Shave biopsy	
Maternity Care	• Fetal monitor interpretation • Manual removal of placenta (simulation)	• NST interpretation* • Intrapartum cervical exam* • SROM evaluation* • Artificial rupture of membranes (amniotomy)* • IUPC placement* • Fetal scalp electrode placement* • NSVD* • First-degree laceration repair* • Shoulder dystocia management (ALSO) • Second-degree perineal laceration repair • Insertion of cervical ripening agent (Cervidil, Prepidil, • Cytotec) • Foley bulb insertion for induction of labor	• Cesarean section • Forceps delivery • Vacuum delivery • Third-degree perineal laceration repair • External cephalic version • Paracervical block • Amnioinfusion • Fourth degree perineal laceration repair

PROCEDURE EVALUATION

LP Video

- How would you provide feedback?
- What process do you use to evaluate?

PC-5 Performs specialty-appropriate procedures to meet the health care needs of individual patients, families, and communities, and is knowledgeable about procedures performed by other specialists to guide their patients' care

Has not achieved Level 1	Level 1	Level 2	Level 3	Level 4	Level 5
	Identifies procedures that family physicians perform Demonstrates sterile technique	Performs procedures under supervision, and knows the indications of, contraindications of, complications of, how to obtain informed consent for, procedural technique for, post- procedure management of, and interpretation of results of the procedures they perform Begins the process of identifying additional procedural skills he or she may need or desire to have for future practice	Uses appropriate resources to counsel the patient on the indications, contraindications, and complications of procedures Identifies and actively seeks opportunities to assist with or independently perform additional procedures he or she will need for future practice	Independently performs all procedures required for graduation Counsels the patient regarding indications, contraindications, and complications of procedures commonly performed by other specialties Identifies a plan to acquire additional procedural skills as needed for practice	Seeks additional opportunities to perform or assist with procedures identified as areas of need within the community

Comments:

CAFM Consensus Statement for Procedural Training in Family Medicine Residency

Preamble:

Procedural skills are expected of all family medicine residency graduates. The Accreditation Council for Graduate Medical Education Review Committee for Family Medicine (RC-FM) in its 2014 revision of the Family Medicine requirements FAQ (frequently asked questions), stated that national organizations of family medicine should develop training guidelines for procedural training for the specialty.[1] A task force was convened with the support of the Association of Family Medicine Residency Directors (AFMRD) that included experienced faculty and program directors from across the country and CAFM member organizations. This consensus report represents the collective wisdom of experienced educators building upon a foundation of established literature and existing standards in determining best practices for informing what defines procedural competency.

Procedure Competency Assessment Tool (PCAT)

1. Minimum volume of experience
2. Formal, standardized assessment tool

PCAT Competency: Minimum Volume

- Number of times resident should perform a procedure under supervision before faculty consider the resident to perform it independently
- Not synonymous with establishing a minimum threshold case log for residency experience
- Based on expert opinion and should be adjusted as data becomes available
- May include simulation and models

Competency: Formal, Standardized Assessment

- Procedure Competency Assessment Tool (PCAT)
- Adapted from validated Operative Performance Rating System (OPRS) used in surgical specialties
- 5 point Likert scale with behavior anchors ranging from “novice” to “expert”
- May be used as formative teaching tool, but primary goal is to evaluate operators performing procedures independently

NEWLY REVISED

ACS/APDS SURGERY RESIDENT SKILLS CURRICULUM PHASE 1 – CORE SKILLS

CAFM-Appoved Procedure Competency Assessment Tools

(Individual files in .docx format.)

- Anoscopy
- Arterial Cannulation
- Bartholin's Cyst Management (Marsupialization)
- Bartholin's Cyst Management (Word Catheter)
- Casting and Splinting
- Central Venous Cannulation
- Cervical Cytology (Pap Smear)
- Cervical Polypectomy
- Colposcopy
- Destruction of Skin Lesion
- Endometrial Biopsy
- External Hemorrhoidectomy
- Fine Needle Aspiration Biopsy
- Fine Needle Aspiration of Cyst
- General
- Implantable Contraception
- Incision and Drainage
- Intrauterine Device
- Joint, Bursa, Soft Tissue Aspiration or Injection
- Lingual Frenotomy (for Ankyloglossia)
- Lumbar Puncture
- Nail Removal
- Nerve Block
- Newborn Circumcision
- OB Ultrasound Basic/Limited
- Oral Endotracheal Intubation
- Paracentesis
- Reduction of Dislocated or Subluxed Joint
- Skin and Subcutaneous Excision
- Skin Biopsy (Non-Excisional)
- Skin Laceration Repair (Simple)
- Slit Lamp Examination
- Thoracentesis
- Umbilical Vein Cannulation (Neonatal)
- Vasectomy
- Wet and KOH Prep

LP Video take 2

- PCAT Assessment

Our Experience with PCAT's

- Iowa Data

SUMMATIVE EVALUATION OF PROCEDURE COMPETENCY

Accreditation Council for Graduate Medical Education

Family Medicine RRC

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Summative Evaluation

- V.A.3.a) The specialty-specific Milestones must be used as one of the tools to ensure residents are able to practice core professional activities without supervision upon completion of the program. (Core)
- V.A.3.b) The program director must provide a summative evaluation for each resident upon completion of the program. (Core)
- This evaluation must:
  - V.A.3.b).(1) become part of the resident's permanent record maintained by the institution, and must be accessible for review by the resident in accordance with institutional policy; (Detail)
  - V.A.3.b).(2) document the resident's performance during the final period of education; and, (Detail)
  - V.A.3.b).(3) verify that the resident has demonstrated sufficient competence

Clinical Privileges/Procedures Requested.

At the conclusion of Dr. _____'s Family Medicine residency training, he/she was judged capable of performing the following procedures independently. Current clinical competence should be assured before granting these privileges.

CORE PROCEDURES

General

Skin punch biopsy
Cryotherapy (skin lesion)
Excision of skin lesion (including excisional biopsy)
Incision and drainage of abscess
Suturing/laceration repair—simple/complex
Toenail removal
Anoscopy
Circumcision—neonatal
Endometrial biopsy
Lumbar puncture
Management of simple nondisplaced fractures/splinting/casting
Epistaxis management
Joint aspiration and injection

Obstetrical

Resident completed only the minimal requirements for obstetrical training for a family medicine residency.
Resident completed our full obstetric training program and was judged capable of the following core obstetric privileges:

Spontaneous vaginal delivery
Repair of obstetrical lacerations and episiotomies
Labor augmentation and induction
Manual extraction of retained placenta
Basic obstetrical ultrasound (position of the head, heartbeat)
Amniotomy
Fetal scalp electrode placement
Intrauterine pressure catheter (IUPC) insertion
Interpretation of fetal heart rate tracing

Procedure Competency & Summative Evaluation

- Discussion
  - Specific list
  - "scope of FM procedures"
  - No comment

PCAT: Future Research Needed

- Collaborate
- Validate
- Disseminate

- "This task force recommends that AFMRD & STFM establish and support a learning collaborative for the continuing development, field testing, refinement, and dissemination of this method of procedure competency assessment."

Please contact me if interested
in collaboration on PCAT validation

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Please…

Complete the
session evaluation.

Thank you.


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