

How do Nephrologists Learn their Craft?

AQ Urbanes MD

2018 Vascular Access for Hemodialysis Symposium

VASA, New Orleans, LA

10 May 2018

Craft

Skill in planning, making or executing: DEXTERITY

Merriam-Webster.com, Merriam-Webster,
www.merriam-webster.com/dictionary/craft.
Accessed 2018.

An activity involving skill in making things by hand.

OxfordDictionaries.com, English Oxford Dictionary,
www.en.oxforddictionaries.com/dictionary/craft.
Accessed 2018.

Nephrology Fellowship Medical Knowledge

“ . . . must demonstrate knowledge of
the principles of dialysis access (acute & chronic vascular and peritoneal),
including indications, techniques and complications . . . ”

“ . . . must have formal instruction regarding indications for and in
interpretation of the results of

- i. balloon angioplasty of vascular access and other procedures utilized in the maintenance of chronic vascular access patency;
- ii. management of peritoneal catheters;
- iii. radiology of vascular access . . . ”

Nephrology Fellowship

Patient Care & Procedural Skills

“... must demonstrate competence in the performance of the following procedures:

- i. acute & chronic HD
- ii. CRRT
- iii. percutaneous biopsy of both autologous & transplanted kidneys
- iv. peritoneal dialysis
- v. placement of temporary vascular access for hemodialysis and related procedures
- vi. urinalysis”

Nephrology Fellowship

- 145 Fellowship programs in the United States
 - between 2 to 5 fellows per year, F1/F2
 - between 0 to 3 fellows per year, F3+
- 20/145 (14%) of programs have an IN faculty
 - $\approx$ 7 have graduated fellows that have sought ASDIN certification in past 10 years
 - ACGME training requirements achieved via
 - rotations as part of 2-yr program
 - core curriculum lectures
 - ? simulation



EDUCATION
and meetings

PUBLICATIONS
and communications

ADVOCACY
and public policy

GRANTS
and funding

MEMBERSHIP
and services

Fellows

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Renal Fellow Network

Educational Resources

Accreditation and Boards

Nephrology Subspecialization

Publishing by Fellows

Other Sites of Interest

Fellows: Subspecialization in Nephrology

AST Renal Transplant Fellowships

Endorsed by the American Society of Nephrology (ASN).

- [Transplant fellowship accreditation](#)
- [Current transplant fellowship programs](#)

Interventional Nephrology Training Programs

This is a [link](#) through the American Society of Diagnostic and Interventional Nephrology. Programs other than those listed on this website may offer interventional nephrology training. It is recommended that interested individuals contact individual programs to determine if they offer such training.

Dual Certification Resources

Nephrology and Critical Care Medicine

The continued development of novel extracorporeal therapies and improved care for critically ill patients has led to a growing interest in critical care nephrology as a career path. Board-eligible and board certified nephrologists can obtain board certification in Critical Care Medicine with an additional year of ACGME training.

- [Information from ABIM about dual certification for Critical Care Medicine and nephrology](#)
- [Learn about opportunities in pediatric acute care nephrology](#)
- [Contact information regarding double-boarding](#)

ASDIN

American Society of Diagnostic and Interventional Nephrology

- founded in 2000
- 657 active members (521 physicians) as of April 2018
 - 10,083 nephrologists (2016)
- activities include
 - ✓ certification of physicians: HVA, PD, Ultrasound
 - 343 physicians certified in HVA procedures; 27 in 2017
 - ✓ accreditation of training programs
 - 11 programs currently accredited, 5 are in or are affiliated with academic institutions

AMA Masterfile.
Accessed April 2018.

Accredited Training Program Requirements

Qualified faculty

Defined curriculum, including didactic instruction

Basic anatomy; Physical examination; Radiation safety, Imaging equipment & techniques; Tools; Surveillance & monitoring; Sedation; Procedures & complications; Documentation & Coding

Hands-on training

Formal mechanism for student evaluation

Facility infrastructure requirements

Facility procedure volume

Record keeping

QA and CQI

NEDIM-2 (2006)

New & Emerging Disciplines in IM

1. Must have a **unique body of knowledge** that cannot be fully incorporated into the “parent” discipline.
2. Must have **clinical applicability to be practiced in a form that is distinct from the “parent” discipline.**
3. Must contribute to the **scholarly generation of new information** and must **advance research** in the field.
4. Must be an important social need for the discipline and evidence that practice of the discipline **improves patient care.**
5. Competence requires **supervision and direct observation** provided in formal training settings.
6. Minimum training period for demonstration of competence needed for certification is **12 months.**
7. Commonly will involve **complex technology** or **specific site-of-care opportunities** for learning best provided in the training setting
8. Positive value of certification in new discipline must **outweigh any negative impact on the practice of general internal medicine or an existing subspecialty.**
9. Cost break-even number of candidates for subspecialty certification is **400.**

IR Training Requirements Procedure Counts

Procedure Type	Count
Percutaneous vascular puncture	100
Selective vascular catheterization	200
Vascular PTA	50
Vascular stent implantation	25
Embolization procedures	50
Image-guided non-vascular procedures (eg, drainage)	50

Siragusa 2013. *JVIR* 24: 1609.

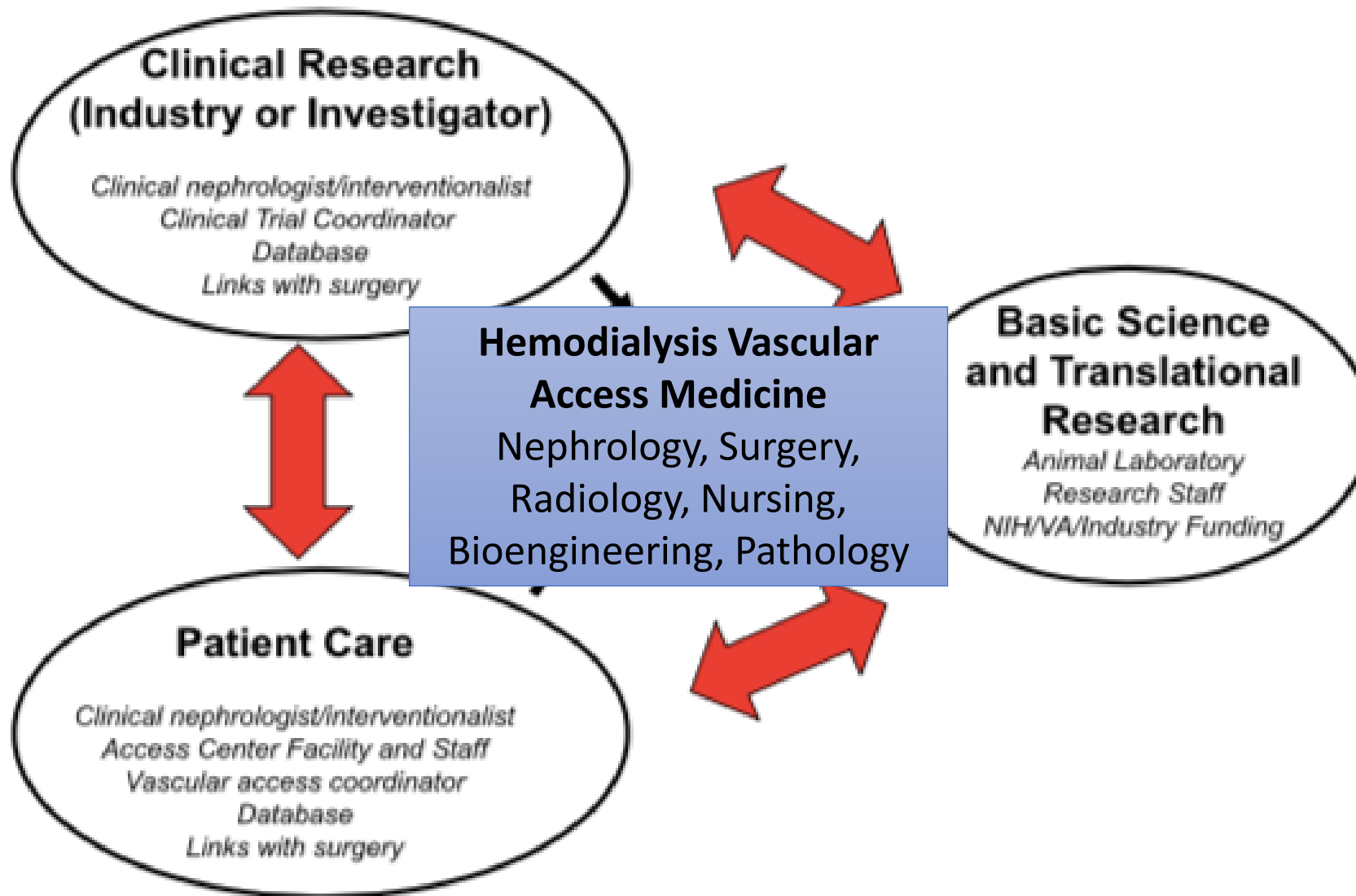
ASDIN HVA Certification Requirements Procedure Counts

Procedure Type	Count
Angiography	25
Angioplasty	25
Thrombectomy	25
Endovascular stent implantation	10
Tunneled long-term HD catheter	25 (13)
*Accessory vein obliteration	5
*Subcutaneous port implantation	5
TOTAL procedures	125

ASDIN website. asdin.org.
Accessed May 2018

Obstacles to Establishing an Academic IN Program

- Soft leadership support
 - clinical imperative
 - training advantage
 - operational advantage
- System inertia
 - prioritization of initiatives
 - dialysis unit silo
 - referral habits
- Interdepartmental territorial disputes



Summary

- Clinical nephrologists receive access education via formalized ACGME-mandated curriculum requirements.
- Clinical fellowship exposure to procedural care remains inconsistent and sporadic. This continues to be institution-specific and is driven largely by physician champions within the faculty.
- Current practicing INs have been trained outside of the academic environment but this is evolving as fellowship programs respond to the needs of the community and Nephrology practices.
- Standardized, formalized ABIM-accredited Interventional Nephrology sub-specialty training remains an aspirational goal and must be aggressively pursued.

