

**BIOGRAPHICAL SKETCH**

NAME Anne Marie Cahill, MD		POSITION TITLE Associate Professor of Radiology Chief, Interventional Radiology	
eRA COMMONS USER NAME (credential, e.g., agency login)			
EDUCATION/TRAINING ( <i>Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.</i> )			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
St. Louis Secondary School, Mayo, Ireland		1978-1984	
University College Galway, Galway City, Ireland	MBBchBAO	1984-1990	Medicine & Surgery
Castlebar General Hospital, County Mayo, Ireland	Internship	7/1990-12/1990	Surgery
University College Hospital, Galway City, Ireland	Internship	1/1991-6/1991	Medicine
University College Hospital, Professorial Unit, Galway City, Ireland	Residency	7/1991-12/1991	Internal Medicine- Gastroenterology
Mullingar General Hospital, County Westmeath, Ireland	Residency	1/1992-6/1992	General Medicine
James Connolly Memorial Hospital, Professorial Unit, Blanchardstown, Dublin, Ireland	Residency	7/1992-6/1993	Internal Medicine- Endocrinology
Mater Misericordiae Hospital, Dublin, Ireland	Residency	9/1993-6/1997	Radiology
British Columbia Children's Hospital, Vancouver, British Columbia, Canada	Fellowship	7/1997-6/1998	General Pediatric Radiology
Children's Hospital of Pittsburgh, Pittsburgh, PA	Fellowship	8/1998-7/1999	Pediatric Interventional Radiology

**A. Personal Statement**

I am privileged to be able to closely interact with children and their families on a daily basis through my work. Nothing gives me greater pleasure than to make a difference in children's lives through my expertise. CHOP provides a very diverse patient population which continues to provide countless opportunities for expansion of my skill set in interventional radiology.

My extroverted nature has helped me forge strong relationships within CHOP as well as on a national and international scale, which has greatly enriched my life both professionally and personally. I have thoroughly enjoyed the great mentorship I have received over the years collaborating with my clinical colleagues in publishing our studies.

Over the years I have developed areas of focus within the field of pediatric interventional radiology, including, ultrasound-guided thyroid biopsy. Thyroid nodules in children are more complex in etiology than adults with a significant number not easily determined to be malignant or benign based on grayscale and Doppler ultrasound alone. This requires exploratory surgery in nodules with indeterminate lesions. My more recent area of interest is the physiology of these types of nodules as it pertains to CEUS and ultrasound elastography. The enhancement characteristics and tissue stiffness may help reduce the need for some of these nodules to be excised.

## **B. Positions and Honors**

- 2000-2002 Courtesy (Provisional Staff), Department of Radiology, Tod's Children's Hospital, Youngstown, OH
- 2000-2002 Courtesy Staff, Department of Radiology, Magee Women's Hospital, Pittsburgh, PA
- 1999-2003 Active Staff, Department of Radiology, Children's Hospital of Pittsburgh, Pittsburgh, PA
- 2003-present Staff Radiologist, the Children's Hospital of Philadelphia, and Philadelphia, PA
- 2006-present Division Chief, Interventional Radiology, Director of Image Based Therapy for Vascular Anomalies, The Children's Hospital of Philadelphia, Philadelphia, PA

## **Other Experience and Professional Memberships**

- 1996-present Fellowship of the Faculty of Radiology – Royal College of Surgeons of Ireland (FFR.RCSI)
- 1997-present Fellowship of the Royal College of Radiologists London (FRCR)
- 2008-present International Society for the Study of Vascular Anomalies (ISSVA)
- 2008-present Pediatric Subcommittee for the Society of Interventional Radiology, National Committee Faculty
- 2008-present Society of Pediatric Radiology/Society of Interventional Radiology Practice Standards Committee
- 2002-present The Radiological Society of North America (RSNA)
- 2002-present Society of Interventional Radiology (SIR)
- 1997-present Society of Pediatric Radiology (SPR)
- 1997-present American Roentgen Ray Society (ARRS)
- 2005-present Philadelphia Angiography and Interventional Radiology Society (PAIRS)

## **Honors**

- 1995 Sylvester Boland Medal – Radiology Registrars Prize
- 2004 Poster Award – Honors: Baskin KM, Kaye RD, Cahill AM, and Towbin RB. Poster Presentation, "Botox injection of salivary glands in children with hyper salivation and chronic aspiration". Society of Interventional Radiology Annual Scientific Meeting, Phoenix, AZ.
- 2009 Poster Award – Honors: Dubois J, Sidhu M, Racadio R, John P, Cahill AM, Heran M. "Embolic and Sclerosing Agents: What the pediatric radiologist should know. PO-61. Society of Pediatric Radiology, Annual Scientific Meeting, Carlsbad, California.
- 2009-2018 "Best Doctors in America"
- 2001-2018 "Top Doctors in the Region"
- 2014 CHOP Physician Nurse Partnering Award
- 2016 CHOP Physician Nurse Partnering Award

## **C. Selected Peer-reviewed Publications**

1. **Cahill AM**, Nijs EL. (2011). Pediatric vascular malformations: pathophysiology, diagnosis, and the role of interventional radiology, *Cardiovascular and Interventional Radiology*, 34(4):691-704. PMID: 21409475
2. Rychik J, Veldtman G, Rand E, Russo P, Rome JJ, Krok K, Goldberg DJ, **Cahill AM**, Wells RG. (2012). The precarious state of the liver after a Fontan operation: summary of a multidisciplinary symposium, *Pediatric Cardiology*, 33(7):1001-1012. PMID: 22534759.
3. Ballah D, Nijs E, Keller MS, Zhu X, Krishnamurthy G, **Cahill AM**. (2013). Percutaneous CT-guided vertebral bone biopsy in children, *Pediatric Radiology*, 43(5):582-8. PMID: 23179486
4. Frisoli FA, Lang SS, Vossough A, **Cahill AM**, Geuer GG, Dahmouh HM, Storm PB, Beslow LA. (2013). Intrarater and interrater reliability of the pediatric arteriovenous malformation compactness score in children, *Journal of Neurosurgery: Pediatrics*, 11(5):547-51. PMID: 23495808.

5. Ballah D, Rabinowitz D, Vossough A, Rickert S, Dunham B, Kazahaya K, **Cahill AM**. (2013). Preoperative angiography and external carotid artery embolization of juvenile nasopharyngeal angiofibromas in a tertiary referral paediatric centre, *Clinical Radiology*, 68(11):1097-106. PMID: 23911010.
6. Franchi-Abella S, **Cahill AM**, Barnacle AM, Parient D, Roebuck DJ. (2014). Hepatobiliary intervention in children, *Cardiovascular Interventional Radiology*, 37(1):37-54. PMID: 23907374.
7. Gaballah M, Storm PB, Rabinowitz D, Ichord RN, Hurst RW, Krishnamurthy G, Keller MS, McIntosh A, **Cahill AM**. (2014). Intraoperative cerebral angiography in arteriovenous malformation resection in children: A single institutional experience, *Journal of Neurosurgery Pediatrics*, 13(2):222-8. PMID: 24286156.
8. Meyers KE, **Cahill AM**, Sethna C. (2014). Interventions for pediatric renovascular hypertension, *Current Hypertension Report*, 16(4):422. PMID: 24522941.
9. Gaballah M, Krishnamurthy G, Keller MS, McIntosh A, **Cahill AM**. (2014). Single-incision technique for placement of tunneled internal jugular vein vascular access in children, *Pediatric Radiology*, 44(8):1004-10. PMID: 24315352.
10. Rhee E, Hurst R, Pukenas B, Ichord R, **Cahill AM**, Rossano J, Fuller S, Lin K. (2014). Mechanical embolectomy for ischemic stroke in a pediatric ventricular assist device patient, *Pediatric Transplant*, 18(3):E88-92. PMID: 24646292.
11. Gaballah M, Krishnamurthy G, Keller MS, McIntosh A, Munson DA, **Cahill AM**. (2014). US-guided placement and tip position confirmation for lower-extremity central venous access in neonates and infants with comparison versus conventional insertion, *Journal of Vascular Interventional Radiology*, 25(4):548-55. PMID: 24674213.
12. Delgado J, Bedoya MA, Gaballah M, Low DW, **Cahill AM**. (2014). Percutaneous sclerotherapy of foot venous malformations: evaluation of clinical response, *Clinical Radiology*, 69(9):931-8. PMID: 24865314.
13. Borofsky SE, Obi C, **Cahill AM**, McIntosh A, Gaballah M, Keller MS. (2015). Transiliopsoas approach: An alternative route to drain pelvic abscesses in children, *Cardiovascular Interventional Radiology*, 45(1):94-8. PMID: 25008801.
14. Gaballah M, Krishnamurthy G, Berman JI, Edgar JC, Adeb M, Keller MS, McIntosh A, Nazario M, **Cahill AM**. (2015). Lower extremity vascular access in neonates and infants: A single institutional experience, *Journal of Vascular Interventional Radiology*, 26(11):1660-8. PMID: 26505937.
15. Green R, GU X, Kline Rogers E, Froehlich J, Mace P, Gray B, Kazan B, Olin J, Goring HL, **Cahill AM**, Meyer KE. (2016). Differences between the pediatric and adult presentation of fibromuscular dysplasia: Results from the US Registry, *Pediatric Nephrology*, 31(4):641-50. PMID: 26525198.
16. Hwang TJ, Girard E, Shellikeri S, Setser R, Vossough A, Ho-Fung V, **Cahill AM**. (2016). Early experience with X-ray magnetic resonance fusion for low-flow vascular malformations in the pediatric interventional radiology suite, *Pediatric Radiology*, 46(3):413-21. PMID: 26681438.
17. Dewdrop-Link HE, Same C, Hernan-Schulman M, Bareness KA, **Cahill AM**, Chung E, Dorian AS, Darge K, Krishnamurthy R, Lofgren MP, Moore S, Olivier L, Planography A, Tobin AJ, Trout A, Voss S. (2016). White

paper on P4 concepts for pediatric imaging, *Journal of the American College of Radiology*, 13(5):590-7. PMID: 26850380.

18. Guzman AK, Zahra M, Trerotola SO, Raffini LJ, Itkin M, Keller MS, **Cahill AM**. (2016). IVC filter retrieval in adolescents: Experience in a tertiary pediatric center, *Pediatric Radiology*, 46(4):534-40. PMID: 26795617.
19. Gaballah M, Shi J, Korea K, Raffini L, Taranga C, Keller MS, Krishnamurthy G, Arcadia J, Patel M, **Cahill AM**. (2016). Endovascular thrombolysis in the management of tibiofemoral thrombosis in children: A multi-institutional experience, *Journal of Vascular Interventional Radiology*, 27(4):524-30. PMID: 26944359.
20. Shellikeri S, Girard E, Setser R, Bao J, **Cahill AM**. (2016). Metal artefact reduction algorithm for correction of bone biopsy needle artefact in pediatric C-arm CT images: A qualitative and quantitative assessment, *Clinical Radiology*, 71(9):925-31. PMID: 27262747.
21. Gupton TB Jr, Delgado J, Jaramillo D, **Cahill AM**, Chauvin NA. (2016). Comparative analysis of anterior and posterior contrast injection approaches for shoulder MR arthrograms in adolescents, *Pediatric Radiology*, 46(13):1848-1855. PMID: 27587064.
22. Acord M, Srinivasan AS, **Cahill AM**. (2016). Percutaneous treatment of lymphatic malformations, *Techniques*
23. Elchediak DS, Cahill AM, Furth EE, Kaplan BS, Hartung EA: Extracranial aneurysms in 2 patients with autosomal recessive polycystic kidney disease. Case Report in Nephrology and Dialysis 7(2): 34-42, May 2017.
24. Shellikeri S, Setser RM, Hwant TJ, Srinivasan A, Krishnamurthy G, Vatsky S, Girard E, Zhu X, Keller MS, **Cahill AM**: Real-time fluoroscopic needle guidance in the interventional radiology suite using navigational software for percutaneous bone biopsies in children. Pediatric Radiology 47(8): 963-973, July 2017.
25. Shellikeri S, Setser RM, Vatsky S, Srinivasan A, Krishnamurthy G, Zhu X, Keller MS, **Cahill AM**: Prospective evaluation of MR overlay on real-time fluoroscopy for percutaneous extremity biopsies of bone lesions visible on MRI but not on CT in children in the interventional radiology suite. Pediatric Radiology November 2017 Notes: Nov 12 Epub ahead of print.
26. Acord M, Shellikeri S, Vatsky S, Srinivasan A, Krishnamurthy G, Keller MS, **Cahill AM**: Reduced-dose C-arm computed tomography applications at a pediatric institution. Pediatric Radiology 47: 1817-1824, December 2017.
27. Shellikeri S, Daulton R, Sertic M, Connolly B, Hogan M, Marshalleck F, **Cahill AM**: Pediatric percutaneous nephrostomy: A multicenter experience. Journal of Vascular and Interventional Radiology December 2017 Notes: Epub ahead of print. PMCID: 29221922

28. Shellikeri S, Setser RM, Vatsky S, Srinivasan A, Krishnamurthy G, Zhu X, Keller MS, **Cahill AM**: Prospective evaluation of MR overlay on real-time fluoroscopy for percutaneous extremity biopsies of bone lesions visible on MRI but not on CT in children in the interventional radiology suite. Pediatric Radiology 48(2): 270-278, February 2018. PMID: 29128920

#### **D. Research Support**

##### **Ongoing Research Support**

7/18/2008 – open end date

Genzyme, Clinical Trial. Grant Effort 0%. A Phase 1 Safety Study in Subjects with Severe Hemophilia B using Adeno – Associated Viral Vector to deliver the Gene for Human IX into the Liver Coupled with Transient Immunomodulation.

Role: Co-Investigator.

2/1/2016 – 1/31/2017

NEPENTHE Study, ALSF awarded activity 27300-428140119, Grant effort 5%

Role: Co-Investigator

##### **Completed Research Support**

4/1/2004 – 3/31/2005

The Nicolet Family Award for JRA Research, Grant effort 5%.

Utility of Corticosteroid Injections in Treatment of TMJ Arthritis in Children with Juvenile Idiopathic Arthritis.

Role: Co-Investigator.

7/1/2004 – 6/30/2005

The Ethyl Brown Federer Fund for Excellence, Grant effort 2.5%. TMJ Arthritis in Children: Incidence, Diagnosis and Predictors of Active Disease.

Role: Co-Investigator.

NIH/NHLBI, Clinical Trial. Grant Effort 0%.

6/9/2008-4/1/2013

Inflammation and Infection in Catheter Related Thrombosis in patients with Cystic Fibrosis: A Pilot Feasibility Study.

Role: Collaborator

4/1/2008-3/31/2011

Department of Defense, Federal. Grant Effort 0%. "Phase 1 Study of Intratumoral Photodynamic Therapy in Children with NF1 and Plexiform Neurofibromas Funding".

Role: Co-Investigator.

AX013957501

CHOP 2011

Utility of I flow to display static images of dynamic information when evaluating pediatric angiography datasets". Industry funded.

Role: Principle Investigator