

3rd Early Career Anatomists Conference
22nd-23rd August 2024

Hosted by the University of Sunderland
School of Medicine



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Room Guide

MLT - Murray Lecture Theatre [Level 2 Murray Health]

TEAL - Technology Enhanced Active Learning Space [Level 3 Murray Health]



CITY OF SUNDERLAND AND UNIVERSITY CAMPUSES



University of Sunderland

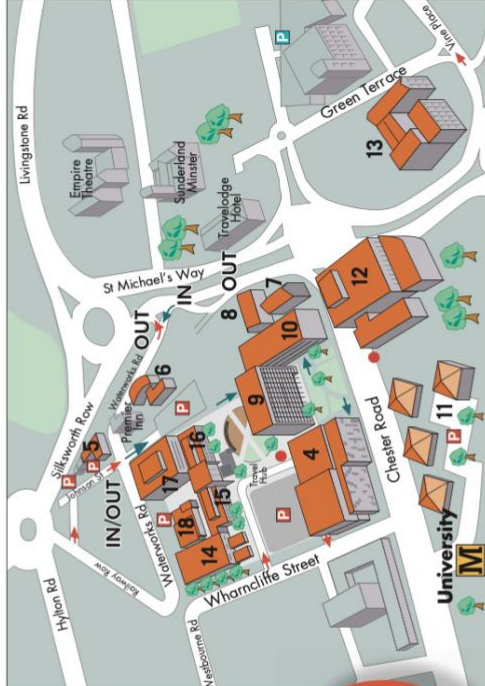
- KEY TO BUILDINGS**
- ACCOMMODATION**
- 1 Clanny House
 - 2 Panns Bank (Hart Court & Douglas Court)
 - 3 Scotia Quay (Allan House & Russell House)
- CITY CAMPUS**
- 4 CitySpace (YourSU@CitySpace)
 - 5 Helen McArdle House
 - 6 Hope Street Exchange
 - 7 St Mary's
 - 8 St Mary's Nursery
 - 9 Edinburgh Building
- SIR TOM COWIE CAMPUS**
- 10 Gateway
 - 11 Technology Park
 - 12 Murray Health & St Peter's Gate
 - 13 Priestman Building (Sunderland Science Park)
 - 14 The John Dawson Sciences Complex
 - 15 Darwin Building
 - 16 Dale Building
 - 17 Pasteur Building
 - 18 Fleming Building (inc. Sir Tom Cowie Lecture Theatre)
 - 19 Wearbank House (inc Interfaith Chaplaincy Centre)
 - 20 St Peter's Centre (Sunderland Science Park)
 - 21 Wearside View
 - 22 Reg Vardy Centre
 - 23 The David Goldman Technology Centre
 - 24 St Peter's Library
 - 25 Prospect Building
 - 26 David Putnam Media Centre
 - 27 National Glass Centre



Why not grab a bite to eat or a coffee when you visit us.

Key to Symbols

	University Buildings		Public Parking
	Other Buildings		University Parking
	One Way		Bus Station
	Building Entrance		Metro Station
	Campus Bus Stop		Train Station
	Cashpoint Machine		Hot Food
	Shop		Cafe



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Code of Conduct for Early Career Anatomists

The ECA group is committed to creating a safe, welcoming space where the differences of all members and participants cohabit, are respected and celebrated to ensure everyone can share their enthusiasm and curiosity for the anatomical sciences.

Our events provide a friendly forum in which to share information and knowledge and discuss the challenges and opportunities facing our industry. We encourage open discussions and debate, balanced with respect and consideration; therefore, we expect this to be reflected throughout your interaction with the community.

The ECA Committee is dedicated to providing a harassment-free experience for everyone interested in anatomical education, research and scholarship regardless of:

- gender identity
- sex characteristics
- sexual orientation
- age
- mental or physical ability/impairment/illness
- belief system (or lack thereof)
- ethnicity and nationality
- partnership status and circumstance (or lack thereof)
- pregnancy and family status
- economic background

All participants at ECA events must agree with the following code of conduct, whose purpose is to set out standards of behavior expected from individuals in the ECA community.

DO:

- treat others equally and fairly, without prejudice or bias
- promote relations with people involved in the ECA community that are based on openness, honesty and respect
- consider how you behave and use appropriate language (verbal and physical) when talking to, about, or in front of any individual involved in ECA or out with the community; ensuring it is not offensive, insensitive, sarcastic, derogatory or discriminatory
- challenge unacceptable and inconsiderate behavior which has the potential or causes harm/distress of any kind, reporting any concerns or breaches of this Code.

Violation of these rules may result in participants being investigated and potentially resulting in individuals being removed from the community without a refund at the discretion of the ECA Committee.

If any person believes that they have been subject to harassment, bullying or discrimination, please contact the President, Dr Jo Tomlinson (j.tomlinson@bristol.ac.uk), and Equality, Diversity and Inclusion Officer, Mx Alex Impedovo (alex.impedovo@nottingham.ac.uk) as soon as possible. Any complaint will be investigated promptly.

If you have any questions or concerns, feel free to contact the Equality, Diversity and Inclusion Officer, Mx Alex Impedovo (alex.impedovo@nottingham.ac.uk)



3rd ECA Conference Schedule

Day 1: Thursday 22 nd August		
12:00-13:00	Arrival, Networking and Registration	Level 2 Murray Health
13:00-13:10	Welcome	Level 2 MLT
13:15-14:10	Workshop session 1	School of Medicine
14:10-14:30	Comfort Break	School of Medicine
14:30-15:25	Workshop session 2	School of Medicine
15:30-16:25	Workshop session 3	School of Medicine
16:30-18:30	Social	Seaburn Beach
19:30-21:00	Dinner (19:30) and Drinks Social	808 Bar & Kitchen
Day 2: Friday 23 rd August		
09:00-09:45	Arrival and Registration	Level 2 Murray Health
09:45-10:00	Welcome	Level 2 MLT
10:00-11:00	Session 1 (Innovation)	Level 2 MLT
10:00-10:30	Invited Speaker 1: Dr Ourania Varsou How can we responsibly utilise generative AI to transform anatomy education for enhanced learning and streamlined administration?	
10:30-10:45	Oral Presentation 1 The use of generative AI (ChatGPT) as a virtual patient for case-based learning in clinical anatomy	
10:45-10:50	Bite-size Presentation 1 Use of design-based research (DBR) as a robust research methodology in technology enhanced learning in anatomy education	
10:50-10:55	Bite-size Presentation 2 Exploring the use of photogrammetry-generated 3D models of anatomical structures as a virtual learning tool for students	
10:55-11:00	Bite-size Presentation 3 Digital resource for healthcare: radiographic anatomy project	
11:00-11:20	Break	Level 3 TEAL

11:20-12:30	Session 2 (Education)	Level 2 MLT
11:20-11:50	Invited Speaker 2: Dr Mandeep Gill Sagoo Illuminating the path through my journey as a senior fellow in higher education and experiences in anatomy	
11:50-12:05	Oral Presentation 2 3D Printing variation: A novel method of teaching and assessing hepatobiliary variation in anatomy education	
12:05-12:20	Oral Presentation 3 A critical examination of the bell-ringer assessment in anatomy education	
12:20-12:25	Bite-size Presentation 4 Medicine, research and surgery: Sharing my career development after MSc in human anatomy	
12:25-12:30	Sponsor Talk (Adam Rouilly)	
12:30-13:50	Lunch	Level 3 TEAL
13:00-13:50	Poster Presentations and Networking	
13:50-15:15	Session 3 (Humanity)	Level 2 MLT
13:50-14:20	Invited Speaker 3: Joanne James & Lynsey Main Body donation - A bequeathal perspective	
14:20-14:35	Oral Presentation 4 Everyday anatomy within a teddy bear hospital	
14:35-14:40	Bite-size Presentation 5 Anatome: Revolutionising anatomical education	
14:40-14:55	Oral Presentation 5 Integrating diversity in anatomical education - Beyond the 'one-size-fits-all' approach	
14:55-15:10	Oral Presentation 6 Enhancing equity and inclusion in anatomy education: a focus on gender identity, sex and sexual orientation	
15:10-15:25	Oral Presentation 7 Let's talk genitalia inclusively!!	
15:25-15:45	Break	Level 3 TEAL
15:45-16:00	ECA Updates	Level 2 MLT
16:00-16:30	Prizes, handovers, thanks, and close	

ECA 2024 Conference Committee



Conference Officer/Chair

Munesh Khamuani

Senior Lecturer in Medical Education, University of Sunderland



Deputy Conference Officer

Jemima Chukwu

Anatomy Demonstrator, University of Birmingham



Conference Co-Chair

Leia Boote

Anatomy Teaching Prosector Manager, University of Nottingham



Conference Co-Chair

Alex Impedovo

Teaching Associate in Anatomy, University of Nottingham



Abstract Lead, Program Chair and ECA Membership Officer

Elena Patera

Doctoral Academic Teacher and Part-time PhD Student,
University of Liverpool



ECA Communications Officer and Social Media Lead

Kris Phillips

Lecturer in Medical Sciences (Anatomy), University of Central
Lancashire



Finance Officer/ECA Treasurer

Samuel Snowdown

Lecturer and Anatomy Teaching Prosector, University of Oxford



Deputy Treasurer

Harry Miles

Lecturer in Anatomy, University of Sunderland

Local Committee at Sunderland University

Alice Roberts (Lecturer in Anatomy), Evie Donald (Lecturer in Anatomy),
Dr Kate Dulohery (Senior Lecturer in Anatomy), Dr David Stellon (Senior
Lecturer in Anatomy), Dr Tom Butts (Senior Lecturer in Neuroscience)





Workshops

Workshop 1

Title:

What Anatomy is, and How (Not) to Make a Career Out of It in the UK

Workshop Lead:

Dr Thomas Butts, Senior Lecturer in Neuroscience, University of Sunderland



Type of Workshop: Career

Workshop Description:

This workshop will use examples from anatomy-related scientific fields/themes (developmental biology, cell biology, genomics, physiology, regenerative medicine, biomechanics evolutionary biology) to argue that in the 21st century anatomy is not just about what the parts of the body are, but about how they function: being a good anatomist depends upon having scholarly interests in the human body, from whatever research perspective.

The workshop will then go on to look at the structure of anatomical careers in the UK, and how they can be constructed and navigated. It will look at the importance of research, and of gross anatomical education in landing and developing a career in higher education in the UK in a time of REF and TEF, changing student demographics, and an increasing crisis in how the UK funds university education.

Workshop 2

Title:

The Use of Motion Technology to Analyse Joint Biomechanics During Functional Tasks

Workshop Lead:

Abbie Taylor, Senior Technician & Lecturer in Sports Science, University of Sunderland

Type of Workshop: Biomechanics

Workshop Description:

The workshop will look at the use of the XSENS 3D motion capture system as a tool for observing and analysing human movement, and the potential use for it in both a medical setting - such as sit to stand and walking with aids for physiotherapists/occupational therapists - and a sporting setting - such as limb differences during squatting, hopping, and jumping. The system will be demonstrated, and discussion will be had surrounding its benefits and pitfalls with regards to anatomy and practice.



Workshop 3

Title:

Embalming for Anatomical Teaching and Procedural Training

Workshop Lead:

Brian Thompson, Technical Anatomy Manager, University of Sunderland

Type of Workshop: Information on different types of embalming techniques

Workshop Description:

Brian will explore changes in his embalming practice over the last 20 years and discuss the different fluid mixes he has used in that time. These include the traditional formaldehyde/phenol mixes such as Vickers #4, as well as Genelyn, Cantabrian, Imperial College soft fix and his work with Ben Whitworth from the Mazwell Group using Dodge embalming chemicals. He will also discuss the consent and donor selection criteria, only around 50% of the donors who offer their bodies can be accepted.

There will be opportunities to ask any questions you want to about the embalming process and watch a film of a donor being embalmed by Brian. As well as seeing the embalming facilities at the University of Sunderland and view donors and handle specimens that have been embalmed using two different chemical mixes from Dodge.



Workshop 4

Title:

Introduction to the Anatomage Table: A Practical Guide for Early Career Anatomists

Workshop Lead:

Harry Miles, Lecturer in Anatomy,
University of Sunderland

Type of Workshop:

Anatomage training

Workshop Description:

This workshop is designed to equip early career anatomists with a thorough understanding of the Anatomage Table and its various applications in anatomy education. Through interactive sessions and hands-on exercises, participants will develop confidence in utilising this cutting-edge technology to enhance their teaching methods. The agenda includes a detailed presentation on the table's features such as the Case Library, Pathology, and Dissectible Cadaveric models.



Following this, we will demonstrate how the table is integrated into our teaching practices, covering its full range of functionalities including saving presets, utilising dissection tools, interpreting radiology, and simulating blood flow. Participants will then have the opportunity to explore the table themselves. We hope this workshop has piqued your interest and look forward to seeing you there!

Workshop 5

Title:

Point of Care Ultrasound (POCUS) in Anatomy Teaching"

Workshop Lead:

Dr Kate Dulohery, Senior Lecturer in Anatomy, University of Sunderland

Type of Workshop: Ultrasound training

Workshop Description:

Point of care ultrasound (POCUS) teaching has been increasingly incorporated into the undergraduate medical curriculum. This has increased the need for anatomy educators to become proficient in sonoanatomy.

At the University of Sunderland, our undergraduate medical programme has a spiral curriculum. Ultrasound is delivered through anatomy sessions with a sonographer or radiologist co-delivering each session with an anatomical educator. In this way we build students' knowledge of sonoanatomy and ultrasound skills by revisiting topics with increased clinical complexity from year one to year three of their degree.

In this workshop, we will start with a brief, practical guide on how we develop ultrasound skills using vasculature as an exemplar. We will give an example of how our spiral ultrasound curriculum works from the basics of probe orientation through to image interpretation through to the sonoanatomy and ultrasound skills required for vascular access. Most of the session will be dedicated to hands on scanning time on our GE Versana cart-based machines and our VScan handheld machines so you can compare your experiences with both options.



Workshop 6

Title:

Anatomy for All: Bridging Gaps, Engaging Communities, and Fostering Social Responsibility

Workshop Leads:

Alice Roberts & Evie Donald, Lecturers in Anatomy, University of Sunderland

Type of Workshop:
Public Engagement

Workshop Description:

Outreach aimed at children and young people has shown to play a significant role in aspiration raising and social mobility within lower socio-economic, and deprived areas of the UK.

We, at Sunderland, have extensive experience in designing, developing, and delivering outreach activities for a wide variety of target audiences.

In this workshop, we will elaborate upon the importance of outreach, before taking you on a tour of our outreach journey so far, including examples of different events we have delivered. Along the way, we will share what we have learnt from our experiences (both positive and negative) and our top tips and tricks. The second half of the workshop will give you the opportunity to design your own outreach event alongside your fellow ECA delegates, allowing you to share and learn from peer-peer experiences.

Our aim is for you to leave our workshop with the information and guidance needed to plan your own outreach activities, and the confidence and inspiration to bring your ideas to life.



Invited Speakers



Dr Ourania Varsou (she/her/hers)

BSc (Hons), MBChB (Hons), PgCert (Merit), PhD, RET Fellow

Senior Lecturer in Anatomy at the University of Glasgow

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How Can We Responsibly Utilise Generative AI to Transform Anatomy Education for Enhanced Learning and Streamlined Administration?

In this talk, we will explore the strategic use of generative AI in anatomy education, focusing on how this technology could be employed to enhance students' learning experience while also empowering educators to concentrate on higher-level cognitive tasks. Through case studies, we will discuss the customisation of formative assessments to individual learning needs and the development of secure, bespoke ChatGPT models trained on in-house content. We will also consider the use of generative AI in streamlining administrative tasks for effective time management. In summary, this talk aims to showcase the multifaceted benefits of responsibly using generative AI to optimise both educational and administrative processes in the field of anatomy.



Dr Mandeep Gill Sagoo (she/her/hers)

EdD (Doctorate in Education), SFHEA

Senior Lecturer in Anatomy at King's College London

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Illuminating the Path Through My Journey as a Senior Fellow in Higher Education and Experiences in Anatomy

In this presentation, I will offer my experiences and personal insights from my application process for HE Senior Fellow position, along with my contributions to research, education, and collaborative initiatives in anatomy. I will highlight the multifaceted roles I have undertaken as an anatomist.



Invited Speakers



Mrs Lynsey Main, BSc (she/her/hers)

Senior Anatomy Technician at the University of Sunderland

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Mrs Joanne James, (she/her/hers)

Bequeathal Secretary at Newcastle University

Joanne.James@newcastle.ac.uk

Body Donation - A Bequeathal Perspective

From our own personal experiences, our talk will cover the body donation process from the initial point of contact from a potential donor right through until cremation. We will discuss the challenges and the emotional impact this process can have on potential donors, their families and the staff that work in this field. We will also share some of our own stories of the unexpected and unusual conversations we find ourselves having.



Oral and Bite-size Presentation Abstracts

1. The Use of Generative AI (ChatGPT) as a virtual patient for case-based learning in clinical anatomy

Fanny Mozu-Simpson

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This study demonstrates the use of ChatGPT3.5 as a virtual patient for case-based learning (CBL) in clinical anatomy, exploring generative AI's potential as a tool for guided teaching and learning within the medical curriculum. 400 Phase 1a and Phase 1b medical students were given a prompt designed in Chat-GPT3.5 to elicit a diagnosis of a knee injury and facial paralysis case. The prompt was presented on a PowerPoint slide, and participants were guided to input it into GPT3.5 and interact with their virtual patient, posing 2-3 questions to arrive at a potential diagnosis. Participants were asked to complete a brief Mentimeter survey before and after the CBL. The data collected from the survey were analysed using descriptive statistics, and common themes were identified. The results indicated that students significantly enjoyed using GPT3.5 as the virtual patient. The common responses generated were 'interesting, fun, interactive and helpful'. Of the 156 respondents, 69% said yes; they found using GPT as a virtual patient useful for learning. Of the 142 respondents, 52% said they would like more CBL sessions using AI. Observations from the session saw an increase in student engagement, illustrating the use of GPT3.5 as a tool to gamify CBL to increase student engagement. The present study demonstrates the use of ChatGPT3.5 as a virtual patient for CBL as an effective tool to engage students in practising history-taking at low stakes. Further research is needed to demonstrate the effectiveness of integrating generative AI within the medical curriculum.

Keywords: chatGPT, virtual patient, case-based learning

Ethics statement:

Ethics is not required according to Imperial's policy, as the study carried out evaluated current systems and their use.

2. Use of Design Based Research (DBR) as a robust research methodology in technology enhanced learning in anatomy education

Rocky Cheung

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Advances in technology bring a new array of educational resources that are readily adopted by anatomy educators. As such, research in technology-enhanced learning is of paramount importance to provide evaluation of the effectiveness of new technological interventions. A big limitation of current empirical research methodologies is the controlled nature due to the use of randomised controlled trials (RCTs), which tend to yield findings that lack transferability to actual practice. Design-based research (DBR) was proposed to address this limitation. Its major difference from other mainstream research methodologies such as RCTs is the ability to provide insights to the how and why, in addition to whether an intervention works. DBR emphasises on the development of theories to inform the process of learning and how learning is supported by the intervention and theory-informed designs and practices that are more transferrable to other contexts. Another key features of DBR includes collaboration between researchers and practitioners, bringing together perspectives of all the stakeholders involved in the field of research and stands it apart from action research. It also utilises mixed methods to provide research robustness and validity by assessing the intervention by multiple dimensions. An example of how DBR is used in the author's research will be provided to illustrate the key features of DBR and explain how this is a pedagogically sound research methodology that can be used to inform future research directions in anatomy education.

Keywords: design-based research, anatomy education, anatomy pedagogical research

3. Exploring The Use of Photogrammetry-Generated 3D Models of Anatomical Structures as a Virtual Learning Tool for students

Mona Al-Khalidi

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Anatomy is a fundamental cornerstone of medical education, traditionally taught using cadaveric dissection or prosection. However, over the last few decades, anatomy modules have seen fewer dedicated lab hours; met with the coronavirus pandemic, anatomy education has seen a demand for digital technologies. This included the use of Complete Anatomy, an interactive virtual three-dimensional anatomy platform. Despite its integration into anatomy curricula, it lacks the authenticity provided by natural human bodies. A potential bridge to cross the gap between the authenticity of cadavers and the versatility of Complete Anatomy is Photogrammetry. Photogrammetry digitally stitches together a series of 2D images of a 3D object to create a model. This study created its own models using prosected specimens which were used in an interventional study against Complete Anatomy Models. 18 students were recruited and randomly allocated to attend either session where the respective models were shown. It was followed by an anonymous questionnaire, including 12, five-point Likert scale questions and 4 survey questions. Feedback suggested photogrammetry models are best used alongside other pedagogies but showed a clear trend in positive responses. Results were not statistically significant (mean satisfaction of 4.7/5 for photogrammetry versus 4.1/5 for Complete Anatomy as a learning tool). However, the study was inadequately powered. Therefore, this study should be replicated with a larger participant group (≥ 90) to confirm its potential as a learning pedagogy in anatomy education and medicine.

Keywords: anatomy, photogrammetry, pedagogy

Ethics statement:

This project was granted ethical approval by the SGUL ethics committee. REC reference: 2024.0027



4. Digital Resource for Healthcare: Radiographic Anatomy Project

Lisa Kilday¹, Jenny Clancy², Thomas Welton³, Kelly Cassidy⁴, Xinlin Chen⁴, Matthieu Poyade¹

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² College of Medical, Veterinary and Life Sciences, University of Glasgow, Glasgow, Scotland

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Radiographic anatomy is a substantial feature of undergraduate diagnostic radiography (DR) education. Spanning three years in England, this course covers typical anatomy, anatomical variations, pathology, and trauma, as well as their radiographic appearances. Although the use of medical imaging in anatomy teaching is established and well-perceived by healthcare students, it is imperative in DR education that the two are merged. To understand spatial complexities of anatomy, 3D models and digital interactions are commonly used as teaching tools, with virtual reality (VR) facilitating the combination of both. DR students have a myriad of VR applications for clinical simulation, but few which focus on spatial, clinical, and radiographic anatomy. Therefore, this project aims to develop a fully-immersive VR learning resource to enhance anatomy learning of DR students. This application is a pilot project which focuses on skeletal anatomy and related pathology on CT images obtained from Lancashire Teaching Hospitals NHS Trust (LTHTR). Using DICOM data, accurate 3D models of skeletal structures will be isolated and placed within the application alongside their radiographic appearance. Students will perform various interactions with virtual structures through the Oculus Quest 2/3 headsets and controllers, before being tested on their anatomy knowledge. Anatomy students in LTHTR will be recruited over the summer months to participate in user testing. This will assess knowledge improvement, usability of the application, and presence within the development. This research has the potential to influence VR anatomy teaching across university healthcare programmes and provide insight into features influencing engagement and usability of VR applications.

Keywords: radiography, anatomy, virtual reality

Ethics statement:

Ethics has been approved by LTHTR to use DICOM data. The research project has been classified as low risk by the Glasgow School of Art. The project was approved by the project supervisors and was deemed to not require review by the university's research ethics committee.



5. 3D Printing Variation: A novel method of teaching and assessing hepatobiliary variation in anatomy education

Christian A Myles, Laura Gorman, James FX Jones

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Classical anatomy of the hepatobiliary tree is present in 55% to 62% of the population. Misidentification of hepatobiliary variants can lead to bile duct injuries in cholecystectomies. A better understanding of variants has been cited as a key area of improvement. To compare the effectiveness of 3D printed models of hepatobiliary variants as adjuncts to learning with standard 2D image-based teaching. Medical students (n=34) were randomly assigned to a 2D-image projection-led education group and a 3D printed model-led education group and were given a tutorial on a selection of arterial and ductal hepatobiliary variants. 2D images of digital models demonstrating variant anatomy to the 2D group and physical 3D printed models of same for the 3D group were used as educational tools. Both groups then completed a 10-question quiz, assessing their ability to identify anatomical variations in both 2D images and on 3D printed models post-tutorial. The median assessment score for the 2D group was 83% (62-94%) and the 3D group was 83% (70-94%). Both groups showed comparable levels of understanding upon assessment, with a significant increase in min scores with the 3D model-led group (2D group, $p=0.008$, 3D group, $p=0.003$; two-tailed Wilcoxon signed-rank test). Although training using 3D printed models had no effect on scores between the two groups, the use of 3D printed models as adjunct educational tools in training and assessment could improve the accuracy of answering questions in assessment of clinical applications and can improve students' understanding of complex anatomical variations.

Keywords: 3D-printing, hepatobiliary-variation, education

Ethics statement:

This study was approved as a low risk study by University College Dublin's Human Research Ethics Committee Sciences with research ethics reference number: LS-C-23-93-Myles-Jones.

6. A Critical Examination of the Bell-Ringer Assessment in Anatomy Education

Valeria Vendries

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The anatomy bell-ringer (also known as spot-test, tag-test, and steeplechase) serves as a widely used assessment in higher education settings to evaluate students' anatomical knowledge. Educators have experimented with various facets of this assessment, including its timing, question format, and the choice between online and in-person settings. The widespread acceptance of anatomy bell-ringers prompts an exploration into the assumptions shaping educators' perspectives on 'anatomical knowledge' and effective assessment methods. This work delves into a critical analysis of the underlying assumptions guiding the selection of bell-ringers as an assessment modality. Examining the notion that assessment drives learning, a common belief influencing educators to favour authentic assessments, this work scrutinizes the role of learners in constructing 'anatomical knowledge' in preparation for the bell-ringer exam. The analysis extends to explore notions of expertise in anatomy learning, evaluating their alignment with the criteria defining authentic assessments. Additionally, this work underscores the importance of recognizing the resource-intensive nature of anatomy bell-ringers. This leads to an exploration of notions of access and privilege that underpin this assessment choice.

I draw inspiration from Cochran Smith and Lytle's (1999) "images of knowledge" framework, Berliner's (1988) Theory of Skill Development, and Muller and Young's (2009) discussion of Powerful Knowledge (PK) and Knowledge of the Powerful (KOTP). I extend these concepts into the field of anatomy education to explore assumptions about knowledge, notions of expertise, and of privilege. In conclusion, this work provides an examination of the assumptions, learning dynamics, and resource considerations associated with the ubiquitously accepted anatomy bell-ringer.

Keywords: anatomy bell-ringer (spot-test), critical examination, assumptions of knowledge

Ethics statement: This project works as a conceptual/theoretical piece. It was not empirical research and did not involve human participants. Therefore, ethical approval was not required.

7. Medicine, research and surgery: Sharing my career development after MSc Human Anatomy

Christopher John Callaghan

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Undertaking anatomy training is an incredibly rewarding experience, and can open many potential career paths. I feel like it is important for young anatomists to understand the breadth of opportunities that are available to them for further career development and to pursue their interests. I therefore would like to provide an overview of my career journey and my reflections on this experience so far. I completed the MSc Human Anatomy at The University of Edinburgh from 2018 to 2019 having previously undertaken a BSc (Hons) Medical Sciences at The University of Edinburgh. During my MSc, I became very passionate about the structure and function of the human body and its clinical implications. After completing my MSc dissertation research on iatrogenic injury during total ankle arthroplasty, I became very interested in surgery. I then studied medicine at The University of Edinburgh and am now a current year 1 doctor working in NHS Lothian on the Specialised/Academic foundation programme. During medical school, I further developed my passion for head and neck anatomy as well as clinical research, which has now led to me undertaking a 4 month research project at the Institute of Cancer Research (London) on the use of liquid biopsies in detecting early disease recurrence in head and neck cancer. I plan on applying for core surgical training this October. I would like to provide your attendees with an overview of this story as I think it shows the true breadth of application of anatomical training in your career. Thank you.

Keywords: anatomy, medicine, research



8. Everyday anatomy within a teddy bear hospital

Dr Benedicta Quaye

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In April 2024, I organized and facilitated a Teddy Bear Hospital at Lancaster city centre as part of a Campus in The City Festival with more than 500 children attending. This event was free and open to all. Teddy Bear Hospital is a fun activity aimed at making children feel more comfortable around doctors and hospitals. Children, accompanied by adult (s) bring along their sick or injured teddies and participate in activities to diagnose and treat them. Our expert 'Teddy Doctors', who are volunteer medical students, bandage sore paws and use teddies and related activities to help explain to children what happens in hospitals. I had some teddy bears available, and children who didn't have teddys were allowed to borrow one as they go through the various stations. They won a sticker upon completion of all the stations. I also added stations where older children and adults were able to join us at the anatomy stands where they were educated them on the skeletal system and viscera found within our torso. Teddy Bear Hospital increased the public knowledge of their bodies. One statement that kept coming up was, " *oh I never knew the liver was this big*". Teddy Bear Hospital also helped reduced children's fear of doctors and hospital environment as this was reflected in their feedback and participation in stations. Medical students also gained knowledge of working with young children and handling sensitive discussions. Teddy Bear Hospital was enjoyed by children, parents, teddies, students, and me.

Keywords: teddy bear hospital, anatomy, public engagement

Ethics Statement:

There was no data collected from participants. A risk assessment of the venue was done but no ethical clearance was required for this outreach activity.



9. Anatome: Revolutionising Anatomical Education

Aisia Lea¹, Dr Deborah Merrick¹, Natasha Noel-Barker¹, Leia Boote¹, Steven Galloway², David McMahon²

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Anatomy education is an essential part of the medical curriculum, allowing students to gain important anatomical knowledge that will underpin their future clinical practice. It is imperative that students experience an inclusive and diverse education so they can fully engage with the teaching material, feel a sense of belonging, and reach their full potential. Furthermore, it can help diminish implicit bias amongst graduates, reduce the perpetuation of poorer clinical outcomes for patients from marginalised groups, and ultimately prepare future clinicians for the diverse population that they will care for. Following a dissertation project exploring student perceptions of ethnic inclusivity in the curriculum, Anatome was born. Medical students report ethnic inclusivity and ethnic representation to be important to their learning, with the desire for there to be increased ethnic representation throughout the curriculum, acknowledging its relevance to future practice. Anatome works in a multifaceted approach to develop inclusive resources for the improvement of diversity in the anatomical and medical curriculum. Anatome involves collaboration between anatomy academics, professors, demonstrators and photographers. Anatome's main aim is to photograph images that better represent the population medical students will treat. Thus far, Anatome's images have improved representation of ethnicity, disability, and gender identity and is used as a case study for developing a more inclusive curriculum framework. This year, we will distribute images and generate feedback from our images to improve the project.

Keywords: diversity, inclusion, curriculum.

Ethics Statement:

This project has been approved by the University of Nottingham School of Life Sciences Ethics Committee, reference: A230424DM.

10. Integrating Diversity in Anatomical Education - Beyond The 'One-Size-Fits-All' Approach

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Anatomical pedagogy has deep roots in Western-European history, reflecting limited diversity in anatomical education. This lack of representation in teaching materials and methodologies can perpetuate implicit biases, affecting medical students' future patient care. For this purpose, we employed a mixed-methods approach, involving a comprehensive literature search across multiple databases (PubMed/MEDLINE, Embase, SCOPUS, and WoS). Keywords used in the search included "anatomical education," "diversity," "inclusivity," "ethnicity," and "cultural competence." This search yielded 15 relevant articles, which were analysed using Braun and Clarke's reflexive thematic methodology. Additionally, we also gathered qualitative data from an informal focus group comprising MSc students at the University of Edinburgh. The focus group discussions centred on students' perceptions of diversity within their anatomical curriculum. Overall, our analysis revealed several key themes - Representation in Teaching Materials, Cultural Competence, Community Engagement/Reflective Practices, Global Inclusivity. Specifically, students reported a lack of diversity in anatomical models, images, and cadavers, noting that most resources featured white males. They also highlighted the importance of cultural competence training for educators, including faculty members receiving training on inclusive teaching practices. Additionally, they proposed involving diverse communities in education initiatives and incorporating reflective activities to help students recognize their own biases. Interestingly, students also expressed a desire for the inclusion of global anatomical practices and demographic statistics in their curriculum. Consequently, these findings reveal that despite attempts to increase diversity in anatomical education, significant gaps remain. By diversifying teaching materials and incorporating inclusive pedagogical strategies, anatomical education can help students serve diverse patient populations.

Keywords: education, diversity, inclusion

Ethics Statement:

Ethical approval was not deemed necessary due to the informal nature of our focus groups. The data was not shared, and we complied with the Helsinki Declaration to ensure this.

11. Enhancing equity and inclusion in anatomy education: a focus on gender identity, sex and sexual orientation

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Inequities in healthcare, stemming from implicit biases among healthcare professionals, significantly impact patient outcomes. According to the "Women's Health Strategy for England," a staggering 84% of women feel unheard by healthcare providers, with lesbian and bisexual women facing heightened discrimination and receiving poorer fertility services. Research underscores the consequences of the underrepresentation of women (both cisgender and transgender), LGBTQIA+ individuals, and non-binary identities in anatomy education, perpetuating a hidden curriculum that marginalizes these groups. The presentation aims to shed light on the pervasive influence of the "hidden curriculum" in anatomy education and its role in perpetuating biases. Drawing upon personal teaching experiences and scrutinizing educational materials through an Equity, Diversity, and Inclusion (EDI) lens, the objective is to raise awareness of this issue. Moreover, a framework for cultivating more inclusive teaching methodologies will be proposed. The integration of social responsibility into anatomy education is vital. This relies on addressing the hidden curriculum, instilling values that reduce discrimination within healthcare settings, thereby promoting equity and inclusion and ultimately enhancing health outcomes. Emphasizing positive representation for diverse bodies and identities is crucial, fostering a sense of belonging and acceptance among learners. By embracing inclusive practices, individuals are empowered to appreciate the remarkable diversity of human anatomy. This positive representation, mindful of protected characteristics, mitigates stereotypes and stigmatization, de-pathologizes, and fosters a more empathetic and respectful approach to patient care.

Keywords: healthcare inequality, anatomy diversity, positive representation

Ethics statement:

This is a presentation based on observations and literature reviews and does not involve data.

12. Let's Talk Genitalia Inclusively!!

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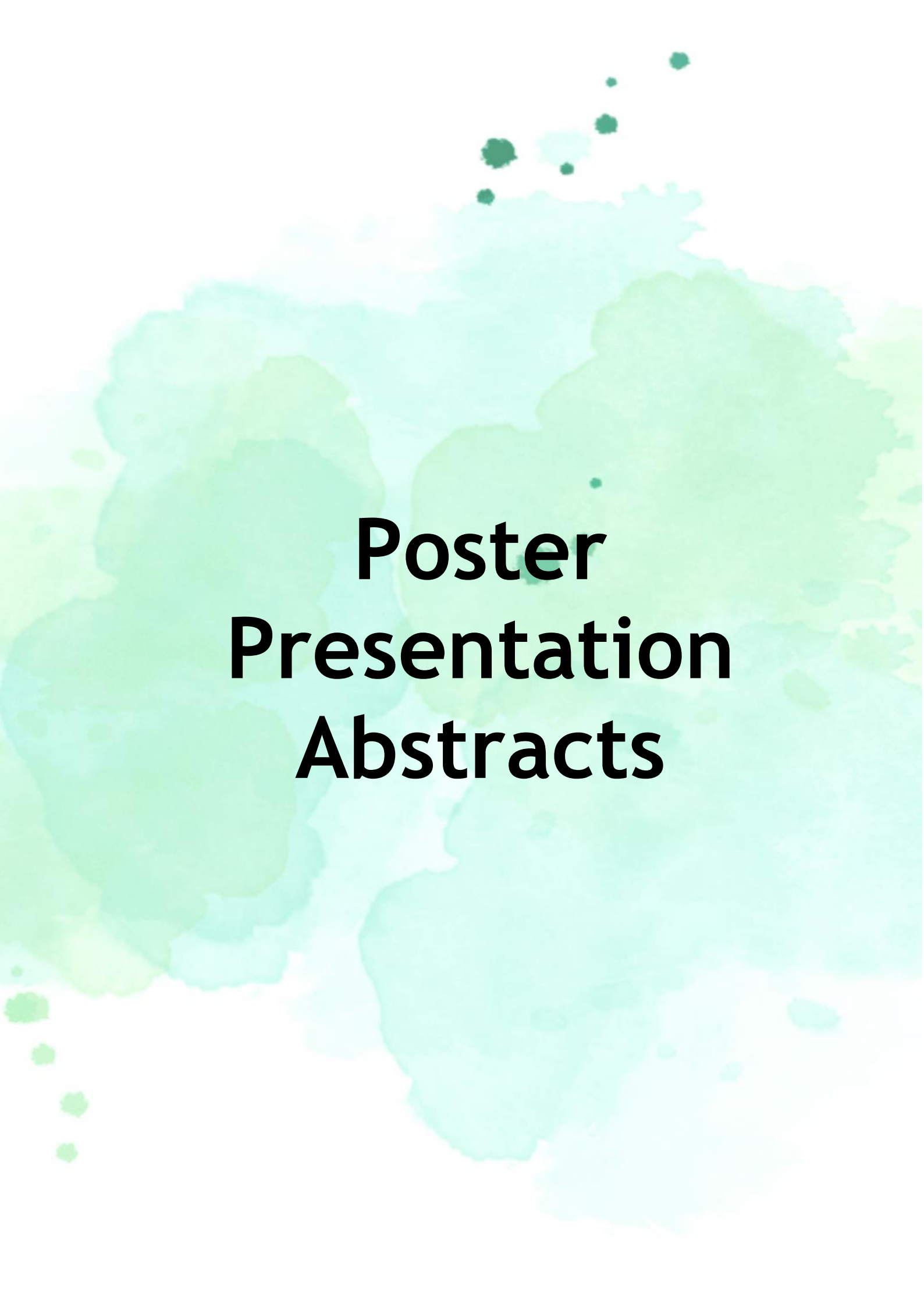
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Every human body is different from an anatomical perspective however, historically, this diversity has been under-represented and often ignored. The literature highlights how Anatomy teaching still falls short in providing inclusive resources that reflect these differences. The impact of which may result in healthcare professionals being unprepared to treat the communities in which they will practice including, for example, members of the LGBTQIA+ community. The use of inclusive imagery and appropriate language may act as a simple but effective way to destigmatise the heteronormative binary narrative where the cis-white male stereotype is the main character. To address this, the University of Nottingham is evaluating the curriculum to diversify resources starting from the pelvic region and genitourinary system, considering the cis-, transgender and intersex perspectives. Learning material on pelvic anatomy from previous years was reviewed for: use of gendered language and eponyms; focus on 'normal/typical' anatomy; upholding of patriarchal standards and acknowledgement of LGBTQIA+ community experience and healthcare. Areas of improvement were identified, and new lecture content and laboratory sessions were designed focusing on inclusive language and referring to LGBTQIA+ anatomy. Staff and student feedback was gathered and reviewed to evaluate the impact of the changes and potentially adapt the material for the following year. The feedback received was exceptionally positive, with overarching themes emerging such as the positive impact for students' education in preparation to becoming healthcare professionals, students feeling represented in the curriculum and need for cohesive use of similar language from all educators.

Keywords: anatomical variations, inclusive healthcare, LGBTQIA+ anatomy





**Poster
Presentation
Abstracts**

P1. Passion for teaching: advancing medical education across borders

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I was always good at biology, which is why I decided to study Medicine in Ukraine. I was a diligent student who always completed homework, and my peers often asked me to explain the content. I never rejected the opportunity to help struggling students because even then, without knowing pedagogy or Dale's 'Cone of Learning,' I felt that teaching was the best way to learn. Throughout my education, my lecturers consistently expressed that I possess natural teaching skills and encouraged me to consider returning for a teaching role in the future. Eventually, I realised that I not only enjoy teaching but also find immense satisfaction in witnessing the 'aha' moment in someone's eyes when they grasp a concept. After graduating from university in Ukraine in 2012, I began lecturing in histology, cytology, and embryology to international students, sharing best practices with colleagues initially in Ukraine and later in the UK. In 2015, I completed my PhD in anatomy and continued my path in academia. After ten successful years of teaching, in September 2022, I was forced to move from Ukraine to the UK to teach medical sciences due to the ongoing war. My positive mindset accepts every challenge as an opportunity, which is why I continue my academic journey. In 2023, I won the nomination for Best Lecturer at the University of Central Lancashire and was shortlisted for the award again in 2024. My passion for helping learners and fostering their understanding has become a central aspect of my life.

Keywords: academic journey, career reflection, anatomy lecturer



P2. Effectiveness of 3D Models in Improving Public Awareness about Hypertension and Atherosclerosis - A Non-Inferiority Randomised Controlled Trial

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Hypertension and its downstream complications often arise due to the lack of awareness and education surrounding risk factors and consequences. Previous studies have shown the efficacy of Three-Dimensional models in disease education among patients and medical students, however, evidence of its use within the general public is limited. Hence, a two-armed unblinded randomised control trial was undertaken to investigate 3D models in educating non-science university students (n=20) about HTN and Atherosclerosis. Following randomisation, participants underwent an educational intervention using either Two-Dimensional Images (n=9) or 3D models (n=11). Using methods of pre- and post-intervention assessments, a Likert scale and a free text comment section; the differences in knowledge, confidence, self-efficacy and individual experience between the two groups were evaluated. The findings indicate that 3D models are comparable to 2D images, though higher knowledge scores were reported there was no statistical difference (p=0.22). Subjective content confidence and self-efficacy were high in both groups but no differences between arms (p>0.05), moreover, the 3D models showed significantly higher engagement and understanding (p<0.05). Quantitative and qualitative analyses provide evidence of the high visualisation, spatial navigation and enjoyment implored by 3D models. This pilot RCT provides evidence for 3D model implementation in disease awareness but identifies the need for further research into a larger more representative sample population and differences in long-term knowledge retention, attitude and behavioural changes.

Keywords: 3D models, hypertension, andragogy

Ethics statement:

Approved by the University of Birmingham School of Biomedical Science Ethics Committee (Project No: BMSRP_2024_005).

P3. Beyond the scalpel: Recurrent laryngeal nerve injury post-thyroidectomy

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Recurrent Laryngeal nerve Injury (RLNI) is a notable complication of thyroid surgery due to its complex anatomical position and variation that can require further medical intervention. The Recurrent Laryngeal Nerve (RLN), crucial for laryngeal function, follows a convoluted path in the neck with significant anatomical variations across individuals and demographics. Surgical procedures can damage the RLN, resulting in complications such as vocal cord paralysis. The aims of this project are to review the literature from The National Library of Medicine and ResearchGate from 2014 to 2024 to understand the anatomical variation of RLN and the epidemiology of RLNI along with evidence-based measures. Epidemiological factors involving patients of black ethnicity aged 65 years old or over are at greater risk of RLNI. However, differences in gender and Body Mass Index (BMI) are not at greater risk of RLNI. Epidemiological aspects and type of thyroid surgery did not affect the mechanism of injury (MOI), with traction and thermal injuries being the most common. Variation of the RLN is common, with six variations were identified. Identifying the RLN and its variations is often difficult peri-operatively due to inflammation. Prevention of RLNI is critical in avoiding transient or permanent Vocal Cord Palsy (VCP). Injury prevention currently relies on uses Intra-Operative Nerve Monitoring (IONM) and visualisation techniques, with future directions involving rigorous surgical training and minimally invasive robotic surgery. IONM and VA have not been proven to be more effective than each other, but both reduce the rate of VCP.

Keywords: recurrent laryngeal nerve, thyroid surgery, vocal cord palsy

P4. Whitwell the Novel Cadaveric Embalming- Could this be a solution for difficult anatomy dissection and learning?

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Cadaveric dissection is a centuries-old human anatomy learning resource. Traditionally, formaldehyde caused student-wellbeing concerns. More recently, the WhitWell embalming method has been pedagogic of colour, smell, texture, joint mobility and reduced costs, while improving student experience of haptic and visual tissue characteristics. Our aim is to explore the impact of WhitWell (1.5% HCHO) embalment in axillary cadaveric dissection on medical students' performance, experience and satisfaction. Dissected axilla region of a WhitWell preserved cadaver will be used for structure identification using a checklist. Likert Scale and thematic analysis will be used to analyse experience and satisfaction. Ethical approval is ongoing. Williams *et al* (2018) reported that students' maximum mean axillary dissection difficulty was a score of 7.5/10 (SD=2.3) and this had practical examination performance implications. The axillary region is a clinically significant area to learn due to the fact that 55920 new cases of breast cancer in the UK are reported between 2016-2018 with an 18% increase incidence of breast cancer since 1983. Therefore, mastectomy and lymph node dissections in breast cancer are lifesaving managements with an injury risk to long thoracic nerve causing winged scapula. Students' knowing axillary region anatomy with clarity and confidence will help to save lives and reduce surgical complications. Another common procedure done by physicians is a chest drain insertion which necessitates knowing the axillary anatomy without doubts. WhitWell could vastly enhance student anatomy understanding, this research is a step forward in that direction.

Keywords: WhitWell', anatomy, cadaveric dissection

Ethics statement:

Ethics number: ETH2324-6879.

P5. Career journey and reflections as an anatomist

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My foremost encounter with an anatomist was with a surgeon who taught human anatomy during my undergraduate degree. He used no PowerPoint or slides during lectures, and I was always fascinated how much anatomy he effortlessly delivered during every interaction. This ignited my interest further in the discipline. After my first degree, I accepted my first teaching role in anatomy and physiology to Nursing students and realised the more I taught the more I enjoyed the discipline. Indeed, Anatomy is learning about your own body and only as complicated as you make it. I decided to build my career and make a profession out of this discipline. Formally, my career as an anatomist begun after I enrolled into an MPhil in human Anatomy at the University of Ghana Medical School. After my postgraduate degree in Anatomy, my love for anatomy kept growing through participation in both practical and theoretical teaching of various students focusing on the 3 main branches of the discipline (Embryology, Histology and Gross). After a while, I decided to go further and pursue a terminal degree, and this took me to Germany where I was able to successfully complete two PhDs in anatomy and experience teaching anatomy the Deutsch way. In a permanent position now and the journey so far has been an enlightening and maturing one. The ever-changing face of anatomy motivates me to evolve with the times, so I can be part of the gate keepers ensuring anatomy stays relevant in medical education.

Keywords: anatomy, career, reflections



P6. Producing an accessible workflow for photogrammetry in anatomy

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Photogrammetry is the technique of using multiple photographs of an object to produce a highly spatially accurate 3D model. 3D models are increasingly used in anatomical sciences for teaching and research purposes. In comparison to other methods of creating 3D models from anatomical specimens, photogrammetry does not require specialist equipment and as such offers a low barrier of entry for use. As such, this makes photogrammetry of particular use to early career anatomists, student projects, and institutions with a limited budget who wish to experiment with 3D image capturing. Whilst the creation of 3D models using photogrammetry is in theory accessible, in practice this is often not the case. Limited guides on how to create 3D anatomical specimens using photogrammetry exist and there is often the assumption that researchers will have both the financial means and the experience of using graphic design software to create these models, with little to no support. In reflection of this, this project aims to improve the accessibility of photogrammetry for creating 3D anatomical models by designing a workflow that requires minimal funding and specialist equipment, whilst providing an accompanying guide aimed towards an end-user with minimal experience of photogrammetry. The created workflow and guide will subsequently be tested by a cohort of end-users, with little or no experience in photogrammetry. It is believed that distribution of this guide will enable a new avenue of digital resources for anatomists, regardless of available resources, thus improving access to the expanded field of 3D anatomy models.

Keywords: 3D modelling, photogrammetry, and technology enhanced learning

P7. Differential RNA expression in the rat laryngeal muscles according to the age

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Voice plays a crucial role in human communication through speech, and disorders affecting voice production significantly impact affected individuals' daily lives. The larynx serves as the primary organ responsible for voice generation, and movement disorders affecting the larynx, such as laryngeal dystonia, spasmodic dysphonia, dysphagia, and essential voice tremors, exhibit a higher prevalence among elderly patients. These disorders result from neuromuscular dysfunction of the intrinsic laryngeal muscles (ILM), yet their exact etiology remains uncertain. Recent advancements in molecular techniques, such as RNA sequencing (RNA-Seq), offer promising avenues for identifying genes implicated in these movement disorders. In this study, RNA was extracted from rat ILMs at postnatal day 15 (P15) and adulthood. The bellies of the posterior cricoarytenoid, lateral, and medial thyroarytenoid muscles were dissected and pooled into separate tubes based on age, sex, position (left/right), and muscle type. A total of 88 samples underwent sequencing, followed by bioinformatic analyses to assess differential gene expression. Of a total of 16,575 genes, the analysis revealed 10,531 differentially expressed genes (DEGs) associated with sex, position, and muscle type between P15 and adulthood. Applying a higher restriction ($fdr \leq 0.001$; $\log_2 FC \geq 2$), enrichment analysis using Gene Ontology (GO) and Kyoto Encyclopedia of Genes and Genomes (KEGG) pathways linked these genes directly to the maintenance of the extracellular matrix space, cell cycle associated to activation and inactivation of nuclear genes, intracellular signaling pathways, and

changes in muscle fiber contraction properties. The integration of this bioinformatic analysis to the anatomy studies is discussed.

Keywords: laryngeal muscles, neuroinflammation, RNA-Seq

Ethics statement:

All authors ensured the use of animals or human subjects for this work has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki). No human tissue from body donors has been used. The present study was performed according to protocol number AC-AABB4500 entitled “Mechanisms of axon guidance in laryngeal reinnervation following injury of the recurrent laryngeal nerve”, which was approved by the University of Columbia’s Institutional Animal Care and Use Committee. The present work follows the ethical principles according to EU directives.

P8. Proprioceptive organs of the rat larynx

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The larynx, an organ that acts as a sphincter of the upper airway, relies on the intrinsic laryngeal muscles (ILM) for vocal fold (VF) movement. The ILM's coordinated contractions modulate VF movement, which depends on the laryngeal proprioception. Dysfunctional proprioception likely contributes to disorders such as laryngeal dystonia, dysphagia, VF paresis, or even worse, VF paralysis. Despite their clinical importance, the proprioceptive circuitry of the larynx is not well understood. The physical identification of the canonical proprioceptive organs, muscle spindles (MS) and Golgi tendon organs (GTO), yet did not show enough evidence to settle the controversy regarding laryngeal proprioception. In recent years, a broadened knowledge of the MS and GTO in other parts of the body provides a bunch of reliable markers for the immunohistological observation of the proprioceptive organs. Thus, Vesicular Glutamate Transporter 1 (VGLUT1) expression was described in the sensory afferents of MS. Sixty-two Sprague-Dawley rats were distributed across five age groups (P3, P8, P11, P14-15, and adult), and their larynges were dissected. Sections were immunostained with the following markers: VGLUT1, beta-tubulin III, S46, GNAT3, PLCb2, S100b, CGRP. MS was identified in the lateral thyroarytenoid muscles of just three P8 rats and no GTO was observed in any larynx. VGLUT1-positive intramuscular receptor-like entities were observed ILM, and VGLUT1-positive nerve endings were observed in the laryngeal mucosa, concentrated around the arytenoid cartilage. A further analysis of these sensory organs may increase our understanding of the VF in healthy and under pathological conditions.

Keywords: laryngeal proprioception, muscle spindles, VGLUT1

Ethics statement: All authors ensured the use of animals or human subjects for this work has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki). No human tissue from body donors has been used. The present study was performed according to protocol number AC-AABB4501 entitled “Laryngeal proprioception”, which was approved by the University of Columbia’s Institutional Animal Care and Use Committee. The present work follows the ethical principles according to EU directives.



P9. From fetuses to cadavers.

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My career path started in Venezuela where I obtained a BSc in Education on Biology and Chemistry and started working as a research assistant and demonstrator in a Biochemistry Laboratory working with fetal tissue. In 2014, I relocated to the UK to learn English, and ideally, continue my professional development by obtaining a postgraduate degree in Biochemistry. At that time, I took the opportunity to join the Human Anatomy Unit at Imperial College London as an Assistant Technician. That experience challenged my abilities because Anatomy was not my area of expertise. I learnt about regulations, maintenance and cadaveric preservation. Shortly after, I developed a particular interest in prosection techniques and started prosecting and demonstrating. That was the moment I fell in love with the field. I decided to improve my dissection skills by studying Human Anatomy to be able to create neatly dissected specimens. Later on, I enrolled in various courses to further improve my anatomical knowledge, and teaching practice. These courses reinforced my engagement with Anatomy and my determination to professionally advance in the field. All these little steps allowed me to create high-quality teaching specimens, improve the collection in the Unit and interact with students while facilitating them, eventually making me feel that my specimens and teaching skills had a positive impact on their education. I recently moved to Liverpool, where I work part-time as an Assistant Prosector. Finally, I got the chance to progress my career path as I will be starting my PhD alongside work.

Keywords: prosector, technician, teaching



P10. A Case Study in Interprofessional Collaboration: Discovering the Supracarinal Meso-esophagus.

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Interprofessional collaboration in anatomy can lead to significant advancements in surgical precision and patient outcomes. An upper digestive surgeon specializing in minimally invasive esophageal cancer surgery identified a previously undescribed anatomical structure, the supracarinal mesoesophagus, in addition to the already known infracarinal mesoesophagus. This discovery prompted him to connect with our anatomical research group to demonstrate the existence of this structure comprehensively. Our study aimed to enhance the understanding of the complex mediastinal anatomy crucial for upper gastrointestinal surgeons performing radical esophagectomy. By examining the embryological development of the mediastinum, we provided insights into the relationships between mediastinal organs and the planes separating them. This research involved analyzing the mediastinum of embryos and a fetus from Prof. Javier Puerta's collection at Universidad Complutense de Madrid, focusing on the development of the supra and infracarinal mesoesophagus. Our observation of the supracarinal mesoesophagus in both early and late stages, alongside the consistently well-developed infracarinal mesoesophagus, significantly advances surgical knowledge of the mediastinum. This insight directly enables more precise esophageal surgeries, emphasizing its paramount importance in clinical practice. Therefore, our research, pending publication in the Journal of Anatomy, showcases the power of interdisciplinary collaboration in driving scientific discoveries and improving medical care.

Keywords: oesophagus, mesoesophagus, mediastinal anatomy

Ethics statement:

I hereby confirm that the study titled "A Case Study in Interprofessional Collaboration: Discovering the Supracarinal Meso-esophagus", used embryos from Prof. Javier Puerta's collection. The study protocol was approved by the Ethics Committee of the Complutense University of Madrid (approval number B08/374) and was conducted in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki).

P11. From Village Roots to Global Insights: A Reflective Career Journey in Anatomy

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Growing up in a middle-class family in a small village in India, I developed a profound interest in science early on, excelling academically and becoming the first in my family to attend university. My fascination with anatomy began during my 10th standard, when a chapter on the heart sparked a deep curiosity about the human body's structure. This curiosity led me to pursue a BSc in Medical Technology (Imaging Sciences), where my exposure to radiological anatomy intensified my desire to study the body in greater detail. Driven by this passion, I pursued an MSc in Medical Anatomy at one of India's premier medical colleges. There, I delved deeply into human anatomy, earning a gold medal and teaching anatomy to students across various disciplines, including medicine, dentistry, yoga therapy, and biomedical sciences. My hands-on experience with neuroanatomy, particularly dissecting the brain and spinal cord, fuelled my interest in the intricate workings of neurons. The COVID-19 pandemic provided a pivotal moment in my career, as my role in quarantine and isolation facilities highlighted the critical importance of effective healthcare management. This realization led me to the UK to pursue an MSc in Healthcare Management at Northumbria University, where I gained international exposure and developed essential leadership and managerial skills. Equipped with this comprehensive background, I am prepared to face future challenges in the ever-evolving healthcare sector.

Keywords: career journey, anatomy and healthcare management



P12. Resuscitation of Collapse Anatomy Teaching

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Case-based teaching is a useful format to build anatomy into clinical reasoning. In University of Bristol, Year 2 medical students use case-based learning to understand common symptoms. This features an associated applied anatomy practical session which aims to relate clinical procedures and imaging to knowledge of prosected cadaveric specimens. The final anatomy session centres around collapse and thus faces unique challenges and opportunities from an anatomical perspective. As collapse causes span multiple organ systems, it affords a valuable opportunity for revision yet can be difficult to structure. Reflections on current collapse teaching were combined with experiential knowledge of previous sessions. This identified potential gaps in teaching and isolated key three principles for session redesign. 1. Clinically relevant layout; Inspired by Resuscitation Council UK guidance, the cases used were assigned unto A-E rotational stations. 2. Integrating anatomy into investigation; Students were encouraged to use the cadaveric specimens and pre-reading to request radiology/clinical images from the demonstrators at their station. Images were provided when anatomical reasoning was shown and then used to consider management options. 3. Teamwork; Collapse management utilises an MDT approach and to represent this, students competed in teams using TurningPoint handsets. The quiz used was designed to include anatomy in the management of the acutely collapsed patient, in comparison to the differential-focused stations. Reflections from this session highlighted a need for more use of specimens within this context and excellent student engagement with the competitive quiz. Future plans for this session will aim to integrate specimens into task-based activities.

Keywords: collapse, education, CBL



P13: The Journey of The Nomad Anatomist

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Becoming an anatomy educator was a career option I never knew existed. My journey into higher education began when I moved to the United Kingdom in 2015 to pursue an undergraduate degree in Biological Sciences (Study Abroad) at Lancaster University. For my second year I moved to the United States where I had the opportunity to attend the Body Worlds Exhibition. Seeing dissected plastinated bodies for the first time ignited my love for anatomy and led me to pursue a Human Anatomy MSc at the University of Edinburgh. In 2020, I started working as an anatomy demonstrator at the University of Birmingham where I gained experience in small group teaching sessions, prosection-based practicals, and histology lectures. In 2021 I was awarded the Anatomy Medical Traineeship Scholarship by University College Dublin where I conducted a research master's focusing on the use of multimedia resources for neuroanatomy education and worked part-time as a demonstrator facilitating dissection-based practicals. In June 2022, I started working as a Lead Demonstrator at St George's University of London where I was responsible for delivering prosection-based practicals and lectures. While working at SGUL, I completed a postgraduate certificate in healthcare and biomedical education. In October 2023, I moved to Liverpool to embark on a long new journey as I started my PhD in Neuroanatomy while working part-time as a Doctoral Academic Teacher. Having studied and worked at different institutions allowed me to gain valuable personal and professional experiences, experience different cultures and individuals, and develop resilience and perseverance.

Keywords: anatomy, career reflection, academia



P14: Medical education implementation of near-peer tutoring into neuroanatomy laboratory sessions: The benefits of clinical years students teaching pre-clinical students.

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Teaching is an essential part of any doctor's role, but there is insufficient training given on how to teach and little to no opportunity for feedback on teaching skills. Since teaching is so important, why is it not implemented into the medical curriculum sufficiently to represent this? This poster investigates the benefits of near peer tutors (NPT) in neuro-anatomy laboratory sessions. The poster discusses 3 studies from different institutes implementation of NPT neuroanatomy teaching. Study 1 and 2 are quantitative. Study 1 shows very positive feedback from second year medical students of NPT when asked to rate their experiences. Study 2 statistics outline that early year's medical students highly value their NPT experiences as it creates a positive learning community and enhances understanding. But as students' progress through the year groups, there is less favorable responses to receiving NPT. This is evidence of pre-clinical years medical students being the most suitable recipients of near peer tutoring. Study 3 is qualitative interviews of those who have been near peer tutors, revealing professional development, in terms of interpersonal skills, teaching skills and academic skills. Linking all of this to future careers as doctors, having a key role in educating junior doctors, medical students, and other health professionals. Discussion and synthesis of data follows these studies. The conclusion is that preclinical years should be taught by NPT's from clinical years in neuro anatomy laboratory sessions to enhance understanding and engagement of tutees, as well as enhancing the skills of the NPT's themselves.

Keywords: education, near-peer, laboratory

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