



WINTER 2021

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THE JOURNAL OF

THE SMAE INSTITUTE™

# Podiatric Medicine

For the Private Practitioner

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change:

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**PROUD PAST,  
EXCITING FUTURE**

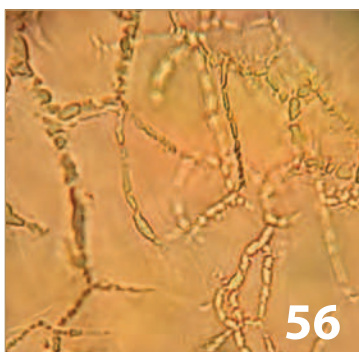
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# Editorial



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**If we thought 2020 was strange, this year is even more unusual having faced everything from the problems of COVID-19, which is manifesting itself widely. We are all very concerned with the new strains emerging and the questions around the vaccines effectiveness against them. Vaccinations have over the years enabled us to overcome very many difficulties, and we hope that this will be the case with the present pandemic.**

And so, as the year comes to a close, we must be positive and look forward to a better 2022. It was disappointing that we could not run our Summer School or Convention this year due to various reasons, however we are pleased that so many of you joined us for the virtual events we hosted in their place. A special thanks goes to the team behind the scenes at Smae who organise these events; they certainly had a few difficult hurdles to overcome this year, but managed to deliver two successful last minute virtual events which were enjoyed by so many of you.

We now look to a brighter 2022 and are excited to host our Convention on 18th and 19th March 2022 at the Oxford Belfry, Thame and our Summer School on 27th & 28th May 2022 at the Holiday Inn, Maidenhead.

You will notice how we are expanding at Maidenhead, and our membership continues to grow, which is wonderful. For me personally it is a great joy to have my own daughter Nicola involved with the Smae Institute, as we have to ensure continuity of this unique organisation.

Recently we held a Black Friday event for Members which saw many of you take advantage and secure your places at the 2022 CPD workshops, whether that be virtually or visiting us here at Smae. CPD is integral in our profession, and it is wonderful to see our Members' continued commitment to personal development.

As you know we like to support a number of charities each year, and this year we were delighted to raise £260.00 for Macmillan Cancer Research and £238.00 for Children In Need. A big thank you to everyone who supported and donated to these worthy charities.

Nicola and the staff at Smae join me in wishing you all a very happy Christmas, and a peaceful and successful new year.



**By Mike Batt**

## Submission of articles

**Content of submitted articles should be Podiatry or Foot Health related.  
Please ensure you include your full name, post nominals and a photo of yourself.**

Please include references to any books or papers mentioned in your article.

# Christmas Closure Dates

## The SMAE Institute

The SMAE Institute will be closed for the Christmas period from 12.00pm on Thursday 23rd December and will reopen for business as usual on Tuesday 4th January 2022.

During this period the answer phone will be on for messages to action when SMAE reopens. Information is available on the website ([www.smaeinstitute.co.uk](http://www.smaeinstitute.co.uk)).



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## Podiacare Orders

Last orders for Podiacare should be placed on 17th December 2021 for despatch on 20th December 2021.

Podiacare will resume business at 9.00am on Tuesday 4th January 2022.

During this period, orders may be placed online, by fax, post or left on the answer phone, for processing when Podiacare reopens.



[orders@podiacare.co.uk](mailto:orders@podiacare.co.uk)

[www.podiacare.co.uk](http://www.podiacare.co.uk)

Wishing everyone a very Merry Christmas and a Happy New Year



**MEMBER OF  
THE SMAE INSTITUTE**

## Smae Members Shield

**Have you requested the Members Shield?  
Get yours now and show you are a valid Member!**

**This new Shield is designed to underline only those with this emblem are current practicing Members of The SMAE Institute and its associated professional association(s).**

All other shields, logos and images relating to The SMAE Institute, and/or its professional associations have been discontinued and should not be used. These have now been superseded by the Members Shield.

You can request a copy of the shield by emailing Carol O'Brien at **cobrien@smaeinstitute.co.uk**. Remember to include your Membership Number in the communication.

## Medical Emergency Procedures Courses

As you are aware, Medical Emergency Procedures Courses are valid for 3 years, at which point Practitioners are required to undertake a refresher course.

To ensure our records are up to date, please ensure we receive a copy of any recently completed first aid course certificates that you may have for inclusion on your file. If you have a current certificate, please email a copy to Karen Cooper (Membership Department) at **kcooper@smaeinstitute.co.uk** for her to update your records.

If you would like to book a place on our popular Medical Emergency Procedures Course with Tracey O'Keeffe, you will find a copy of the Booking Form enclosed with this Journal. Simply return the form to Gill Hawkins at **ghawkins@smaeinstitute.co.uk** or via the postal address detailed on the form.



**New dates  
now available -  
see page 44**



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# COVID-19

## UPDATE ON GUIDANCE

As we move into the winter of 2021, COVID-19 appears to be nearing a state of endemicity. Currently, there are few restrictions in place in England but the Governments 'Plan B' has been introduced. Wales and Scotland are in the equivalent of 'Plan B'. Currently, case rates are rising with the latest Omicron variant in circulation but these remain slow increases as of early December 2021 and the impact on hospitals looks steady so we do hope for a winter less pressured than that of 2020. At this point, you should all be able to see any patient in your caseload requiring treatment but just do keep on ensuring that you are taking appropriate measures to maintain a reduced likelihood of COVID-19 spread.

For those who are needing to get their booster vaccine, if you require a letter from us to support your case in trying to receive one, please email the office and we can provide you with a letter. As most of your patients are now likely to have been vaccinated, and indeed, many of you too, the following guidance is in place for you to undertake your patient caseloads safely and efficiently:

The other main consideration that you will need to have at this time relates to safe working practices. This includes both the working environment and personal protective equipment (PPE). In accordance with this need, we are issuing the following advice in conjunction with advice from Public Health England (links here: <https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-personal-protective-equipment-ppe> and <https://www.gov.uk/government/publications/covid-19-how-to-work-safely-in-domiciliary-care>)

In essence the general advice is along the following lines:

- ***If you have a case COVID-19 confirmed, there is to be no service provided for a minimum of 10 days (provided you have tested negative on a PCR test after this time)***
- ***If you have no symptoms but have tested positive on a lateral flow test (LFT), you will need to avoid any patient contact until a confirmatory PCR has been done. If the results of the PCR test are negative you can continue practice as usual, if the PCR is positive – follow the advice in the previous bullet-point.***
- ***If your patient has had a case of COVID-19 confirmed, there is to be no service provided for a minimum of 10 days (provided they test negative on a PCR test after 10 days)***
- ***If you provide services to a residential home, you MUST liaise with the home to ensure that you can work within their plans and policies that are in place to protect their residents***
- ***In all other circumstances, you are fine to proceed, but you MUST maintain good infection control practices***

- ***Whilst it is no longer essential to pre-screen all patients to gauge the seriousness of their foot complaint – you may wish to continue to phone ahead in order to check that the patient is happy for treatment to go ahead***
- ***You may need to keep to a reduced number of patient caseloads that you see in a day to ensure that you have sufficient gaps to allow for disposal of PPE items and decontamination of any accessory items that you would use patient-to-patient***
- ***You will need to seek to minimise the amount of time spent with patients WITHOUT reducing the quality of care that you provide. Prolonged exposure to individuals increases the risk of disease transmission. This might include completing the patient record card after you have left the company of your patient***
- ***Ensure that you employ the strictest infection control practices and have adequate PPE***
- ***Where possible seek to take payment over the phone or via card transaction***



### **PPE Guidelines:**

- *You will be required to use surgical gloves that are disposed of after every treatment and/or after they have become damaged or visibly soiled with bodily fluids (as is usual practice)*
- *Hand-washing has to be thorough and rigorous before donning PPE and immediately after removing PPE*
- *DO NOT touch your face at any point whilst wearing PPE or once it is removed until you have thoroughly washed your hands*
- *FFP2 or FFP3 masks would be optimal BUT surgical face masks are appropriate where treating a patient where there is low suspicion of them having COVID-19. Surgical face masks are to be disposed of after every appointment. FFP2 or FFP3 masks may be reused up to 3 times if they have not become damaged or soiled AND/OR where you have not been in close contact with the face or upper-respiratory tract of a person with suspected (or confirmed) COVID-19.*
- *Patients should be offered and encouraged to wear a surgical face mask for the duration of their contact with you and they can dispose of them following their contact with you*
- *A face shield / visor OR eye protection is recommended but not essential during the consultation (these can be wiped clean thoroughly with a disinfectant between patients)*
- *Regular aprons will suffice but you may wish to wear full-length sleeved gowns*



Whilst it is not possible to fully socially distance whilst providing treatment to patients, we are fortunate that we are working at the distal end of their body and are typically >1m away from their face, mouth and nose. Thus, risk of transmission is low compared to in other health and care profession contexts. Outside of the moments of treatment and while national social distancing rules remain in place, you should seek to place a distance of >2m between you and the patient and you and anyone else in their households where possible.

All of the PPE items listed above should be available through Podiacare. Please note that due to local, national and global supply and demand issues it may not be possible for Podiacare to supply all items on that list immediately but they are working very hard to make sure that they can so do please keep contacting Podiacare with your orders.

If you have any queries, please do not hesitate to contact us and please do continue to keep safe and well.



*Don't delay*  
**Book  
today!**

*"Unless you try to do  
something beyond  
what you have  
already mastered,  
you will never grow"*

Ralph Waldo Emerson



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# ANNUAL CONVENTION

## 18th & 19th March 2022

DoubleTree by Hilton Oxford Belfry  
Thame, Oxfordshire



Enjoy access to an extensive trade exhibition, listen to eminent lecturers, a hot/cold buffet lunch (and unlimited refreshments), as well as luxury accommodation and full English breakfast in a beautiful 4\* hotel.

Call the **Convention Hotline** on **01628 560654**  
or visit **[www.smae.co.uk](http://www.smae.co.uk)** for more information and to book!

As an acknowledgment for the inconvenience The Oxford Belfry caused, they have offered us a number of complimentary elements for the Friday evening gala dinner.



Therefore, in addition to the 3 course meal there will also now be a drinks reception, casino, music and photobooth for everyone to enjoy.



*Incorporating The British Chiropractic Association  
and The British Association of Foot Health Professionals  
in conjunction with The SMAE Institute*

# The Annual Convention Agenda

## Friday 18th March 2022

**8.45am – 9.50am** Registration, Trade Exhibition & Arrival Refreshments

**9.50am – 10.00am** **Welcome by Tracey O'Keeffe** MA, BSc, RN, PGCE, MCFHP MAFHP, Part-time Tutor/Lecturer at The SMAE Institute

**10.00am – 11.00am ~ Ian B Griffiths** BSc (Hons) MSc (Sports Injury) FCPM FFPM RCPS (Glasg)

### Understanding Foot Orthoses

Understanding how foot orthoses work is fundamental in aiding clinical decisions regarding their appropriate prescription and/or issue. This talk will bring together the beliefs and the evidence regarding how foot orthoses 'work', and how this has changed from past to present (and may need to change again in the future).

**11.00am – 11.45am** Refreshment Break & Trade Exhibition

**11.45am – 12.45pm ~ Dr J Gordon Burrow** BA, AdvDipEd, MSc, MPhil, FChS, FHEA, FCPM, MCSFS, CMIOSH, AcFP, CSci

### Forensic and Legal Medicine

This lecture will outline the role Foot Health Practitioners and Podiatrists can play within the Judicial Systems such as Criminal cases, medico-legal, family Courts as well as Tribunals such as Employment or Equality tribunals and as Experts for statutory/regulatory bodies. It will also outline the role of an 'expert' and that of an 'expert witness' and the qualities that may be desired to be regarded as an Expert Witness, including background and training incorporating the recent Guidance issues by the Academy of Medical royal Colleges. Case studies and evidence-based literature will demonstrate some aspects that may be used to assist Courts and Tribunals in determining case results. Video evidence used in recent criminal cases will demonstrate the limitations as well as the use of some of the areas of this section of practice.

**12.45pm – 2.15pm** Hot/Cold Buffet Lunch & Trade Exhibition

**1.15pm – 2.00pm Break Out Session** (Optional)  
(£15 per person)

### Chairside Devices with Andrew Hill

Chairside devices are a very useful clinical tool. They can allow us to offload and redistribute pressure away from painful and/or high pressure sites to other parts of the foot. They are inexpensive and quick to make and can help relieve a significant amount of patient discomfort. This breakout session will explore some common chairside devices that can be made in clinical practice and demonstrate their manufacture and placement.

**2.15pm – 3.15pm ~ Tracey O'Keeffe** MA, BSc, RN, PGCE, MCFHP MAFHP, Part-time Tutor/Lecturer at The SMAE Institute

### Mental Health – "Hidden Secrets" that sit behind the face

Physical ill-health is usually something visible and understandable, but this is often not so for mental health problems. It is not uncommon to find that people have "hidden secrets" that sit behind a face that may project happiness, contentment and an ability to cope with life. For them it brings challenges, but it also raises problems for people surrounding them. As clinicians, we come into contact with many, many different individuals and the package of well-being they carry with them varies hugely. This lecture will consider how mental health issues may impact us as we treat and care for our clients and their needs.

**3.15pm – 3.45pm** Refreshment Break & Trade Exhibition

**3.45pm – 4.45pm ~ Andrew Hill** MSc Podiatry, BSc (Hons), PG Cert L&T, MSSCh, MBChA, FHEA, HCPC Registered, Clinical Services Manager of The SMAE Institute

### "Oh, sugar! Now what? An update on diabetes for 2021."

Diabetes continues to be an exploding health problem affecting the lives of a growing number of people. This talk will give the latest updates on understanding of disease pathology, evolving classification systems and how all of this impacts on us as clinicians and how we can impact upon our patients with diabetes.

**4.45pm – 5.15pm** Trade Exhibition

Depending on traders open and number of delegates viewing, we reserve the right to close the exhibition room earlier.

**7.00pm – Late** Drinks reception, gala dinner, celebration of achievement and evening entertainment (casino and music) (for those booked).

## Saturday 19th March 2022

**8.30am – 9.15am** Registration, Trade Exhibition & Arrival Refreshments

**9.15am – 10.15am ~ Michael Ratcliffe** FFPM RCPS (Glasg), FCPM, D.Pod.M., B.Sc. (Podiatry), M.Sc. (Health Research), Cert. Ed.

### Managing the chronic lateral ankle sprain

In this presentation we will examine the lower limb components that are affected by the chronic lateral ankle sprain and how to approach their rehabilitation in a structured treatment plan to offer your patient the best possible outcome of future ankle joint stability, using taping, orthoses, exercise, stretching and measurement of progress.

**10.15am – 11.00am** Refreshment Break & Trade Exhibition

**10.30am – 10.50am BSc (Hons) Podiatry Degree Information Session** (Pre-Booked Delegates Only)

**11.00am – 12.00pm ~ Professor Steve West** BE, DL, FChS, FCPM, FRSM, FRSA, Vice-Chancellor and President, UWE Bristol, Chair of the West of England LEP, Chair of the West of England Academic Health Science Network

### AI, Robotics and Digital Technologies in a Covid-19 adapted world

As the world around has changed dramatically we are seeing an acceleration of innovation in our health and social care settings. As we think about the future as we adapt to live with Covid-19 in our communities what does the 'new normal' look like? This lecture will explore the potential role of AI, Robotics and Digital Technologies in healthcare of the future. Suspend your belief and come on a journey on the Starship Enterprise.

**12.00pm – 1.30pm** Hot/Cold Buffet Lunch & Trade Exhibition

**12.30pm – 1.15pm Break Out Session** (Optional)  
(£15 per person)

### Infection Control Practices: Covid-19 update with Andrew Hill, Belinda Longhurst & Robert Isaacs

This panel will discuss the impacts of Covid-19 on clinical practice and how this will come to shape the way that we safely and effectively carry out our patient treatments. Of particular focus in this conversation will be infection control practices, patient screening and personal protective equipment (PPE).

**1.30pm – 2.30pm ~ Robert Isaacs**

Bsc.pod.M. M.Ch.S., HCPC Registered Podiatrist

### Patient centred assessment

Traditional assessment follows a fairly predictable pattern of clinicians finding out what we need to know. However in our enthusiasm to study their neurovascular, medical and musculoskeletal status, it's all too easy to lose focus on the important people in the interaction, the patients to whom the feet are attached. This shifting of focus is one reason so many people are growing to mistrust "Western Medicine" (sic) and being drawn to often dubious treatment paradigms which claim to be more "holistic" (and which are often anything but). In this talk we shall examine how to strike the balance between the patients wants and needs and what we often assume those needs to be, and how we can be holistic practitioners without compromising evidence based care.

**2.30pm – 2.40pm** Ten minute recess

**2.40pm – 3.40pm ~ Belinda Longhurst** Podiatrist / Lecturer BSc (Hons), HCPC registered podiatrist, MCPod

### Treatment & Prevention of Dry Skin & Heel Fissures

This presentation takes a look at the aetiology, treatment and prevention of conditions associated with dry skin of the lower limb.

**3.40pm – 3.45pm** Closing Talk



## Meet The Lecturers

### **Belinda Longhurst**

*BSc (Hons) MCPod, HCPC Registered Podiatrist, Member of the British Dermatological Nursing Group*

Qualifying as a Chiropodist from the Sheffield Institute of Chiropodists and Podiatrists in 2003, Belinda then studied for a higher degree and graduated from the University of Southampton in 2007, where she was awarded a first-class BSc (Hons) degree in Podiatry, with a distinction in clinical practice.

Belinda worked as a private practitioner and was also employed as an NHS Podiatrist at Andover War Memorial Hospital post-graduation. She acts as peer reviewer for a variety of professional journals and advisor for private medical health insurers patient information pages.

Her area of special interest is podiatric dermatology and has frequently presented her published work at both national and international conferences, in addition to being a trustee for the registered charity Forgotten Feet, which aims to provide free foot-care for the homeless and socially isolated.

### **Dr J Gordon Burrow**

*BA, ADvDipEd, MSc, MPhil, FChS, FHEA, FCPM, MCSFS, CMIOSH, AcFP, CSci*

Dr Burrow has been an Expert Witness for some 20 years having his name on the National Crime Agency Database of Expert advisors for Police forces throughout the UK as well as being called upon to act in Equality Tribunal, Employment Tribunal, Fitness to Practice Hearings for HCPC and Chartered Institute of Safety and Health Practitioners, and lawyers for civil and criminal cases in various Courts throughout the UK and abroad.

### **Professor Steve West**

*CBE, DL, FChS, FCPM, FRSM, FRSA, Vice-Chancellor and President, UWE Bristol, Chair of the West of England LEP, Chair of the West of England Academic Health Science Network*

Professor Steve West took up the post of Vice-Chancellor and President of the University of the West of England Bristol in 2008 at the age of 46. Steve is a Fellow of the Royal Society of Medicine and Chiropodists, the College of Podiatric Medicine and the Royal Society of Arts.

Steve trained as a Podiatrist and Podiatric Surgeon in London and developed his research interests in Lower Limb Biomechanics and the Diabetic Foot at King's College London. He worked as a clinician and clinical tutor in the NHS, University Sector and undertook research and consultancy in industry and the retail healthcare sectors. He holds a number of national and international advisory appointments in Higher Education and in his discipline, healthcare policy and practice.

Steve is currently a Non-Executive Director for the Office for Students (OfS) and Chair of the UUK Mental Health in Higher Education Advisory Group. He is also a member of the Education Honours Committee and also serves on the Honours Diversity Committee. He is Chair of the West of England LEP, Chair of the West of England Academic Health Science Network (WEAJSN) and Non-Executive Director for University Hospitals Bristol NHS Foundation Trust. Professor West is a Deputy Lieutenant for the County of Gloucestershire and was made Commander of the Order of the British Empire (CBE) in 2017, for services to Higher Education.

### **Ian B Griffiths**

*BSc (Hons) MSc (Sports Injury) FCPM FFPM RCPS (Glasg)*

Ian is currently the Director of Sports Podiatry Info Ltd; consulting for Pure Sports Medicine, Bupa UK, PGA European Tour, England Rugby, Surrey County Cricket Club, AFC Bournemouth and Arsenal Womens FC. He maintains an active interest in research, and acts as a peer reviewer for several sports medicine journals. He has spoken on the topic of foot and ankle biomechanics and foot orthoses worldwide and has been awarded Fellowships in Podiatric Medicine by the College of Podiatry and also the Royal College of Physicians and Surgeons of Glasgow.



### Andrew Hill

*MSc Podiatry, BSc (Hons), PGCert L&T, MSSCh, MBChA, FHEA, HCPC Registered, Clinical Services Manager of The SMAE Institute*

Andrew graduated from the University of Brighton in 2006 with a BSc (Hons) in Podiatry. He has worked as a Podiatrist in both the NHS and Private sector – both in the UK and Australia. Since 2008 he has worked at The SMAE Institute as an educator ascending to the role of Clinical Services Manager and Programme lead in 2012. In addition to his post graduate teaching qualification in higher education, Andrew obtained his MSc in Podiatry from QMU in 2015 and is currently undertaking his professional doctorate at the University of Bath looking specifically at the barriers and facilitators to good foot self-care behaviours in people with diabetes. Diabetes is a core area of professional interest for Andrew and he has a publications within peer-reviewed journals on patient education and self-care in diabetes. In 2018 Andrew was made a Fellow of the British Chiropody and Podiatry Association and in 2019 Andrew became a Fellow of the Faculty of Podiatric Medicine within the Royal College of Physicians and Surgeons of Glasgow where he has recently been appointed as a regional advisor for Podiatry within London. Andrew's key professional goal is to help develop and drive high quality of training and education at levels within the foot health & Podiatry sector, which in turn can lead to recognition for all levels of clinician in foot health and ultimately help to best serve the public. Andrew's current roles involve his educational lead on the SMAE's FHP; Diploma in Higher Education (Podiatry Assistant); Local Anaesthesia and Prescription Only Medicines courses. He also maintains private practice work, is a peer-reviewer for Patient Education and Counselling and The Diabetic Foot Journals. Andrew also works as an education visitor for the Health and Care Professions council.

### Tracey O'Keeffe

*MA, BSc, RN, PGCE, MCFHP MAFHP, Part-time Tutor/Lecturer at The SMAE Institute*

Tracey qualified as a nurse in 1992 and her career has taken her through many different specialities including intensive care, neurology and cardiac before working in the community as a Rapid Response Nurse. She has also been a Senior Lecturer teaching nursing in university and currently works as an Education Facilitator for Primary Care. Tracey is Smae trained and has her own private practice. She is a part-time Tutor for the Smae Institute FHP Diploma, Diploma in Higher Education (Podiatry Assistant); Local Anaesthesia and Prescription Only Medicines courses.

### Michael Ratcliffe

*FFPM RCPS (Glasg), FCPM, D.Pod.M., B.Sc. (Podiatry), M.Sc. (Health Research), Cert. Ed.*

Michael qualified as a podiatrist from the University of Brighton in 1989. Michael has clinical experience working in the National Health Service specialising in lower limb gait rehabilitation post trauma. Michael also has commercial and industrial experience, delivering a podiatry offer within a pharmacy setting and working for an orthoses manufacturer, and academic experience, as a Lecturer in Podiatry (Anatomy and Pathomechanics) and as Head of School at the Birmingham School of Podiatry. Michael's academic interests centre on researching the mechanical behaviour of the heel fibro-fatty padding within gait. Currently, Michael has been appointed as Sales Training Manager for Cuxson Gerrard & Co. Ltd and he continues to work, part time in private practise.

### Robert Isaacs

*Bsc.pod.M. M.Ch.S, HCPC Registered Podiatrist*

Robert is a podiatrist in full time clinic practice, both within the NHS and private practice. He has held a specialist post in biomechanics for 15 years and has lectured internationally on biomechanics and MSK podiatry.

# Health Behaviours and Behaviour Change:

## A Review of the Theory



By Andrew Hill

Clinical Service Manager & Programme Lead (BSc Hons) Podiatry, The SMAE Institute

MSc Podiatry; BSc (Hons); PG Cert L&T; FFPM RCPs(Glasg); FHEA; FSSCh

Health behaviour can be defined as actions that an individual engages in that affect their health either positively or negatively (De Vries, 2017). These behaviours may surround the basic as well as the complex and have been the source of considerable focus in more recent years as health practice has moved further in the direction of concordant, patient-centred care. Indeed, as the most common reasons for seeking medical / health care over the last 100 years have shifted heavily in the direction of chronic health complaints and living with disease, notions of healthy behaviour and good self-care have been considered to be ever-more important variables for predicting patient outcomes (Miller and Rollnick, 2012). Given the ever-growing understanding of the importance of health behaviours in personal and public health, there will be occasions in which effective interventions will be aimed at instilling certain healthy behaviours or helping the individual to cease unhealthy ones. Both of these are a form of behaviour change. As behaviour change strategies continue to develop and become more central tenets of health provision, a good understanding of health behaviours and the theories of behaviour change are crucial. This article seeks to provide a useful precis of these major theories.

### Behavioural Models / Theories

Davis et al. (2015) identified eighty-two models that seek to explain health behaviours and behaviour change and, within their scoping review, pointed to four that are widely cited in the literature and consistently held up as the seminal theories of behaviour and behaviour change. They are: Transtheoretical Model of Change; Theory of Planned Behaviour; Social Cognitive Theory and the Information-Motivation-Behaviour Skills Model. In addition to these, the Capability-Opportunity-Motivation model posited by Michie et al. (2011) has become a widely used theoretical approach to behaviour change interventions in diabetes mellitus in more recent years (McSharry et al., 2020). Thus, these five models will provide the broad theoretical underpinnings to help contextualise observed behaviour and the thinking behind behaviour change interventions.

### Transtheoretical Model of Change

The Transtheoretical Model [TTM] (also called the 'Stages of Change Model') was developed by Prochaska and DiClemente (1982) and focuses on the decision-making of the individual and is a model of intentional change. The TTM operates on the assumption that people do not change behaviours quickly and decisively. Rather, change in behaviour occurs continuously through a

cyclical process. As TTM is a model rather than a theory; different behavioural theories and constructs can be applied to various stages of the model where they may be most effective (Prochaska et al., 2015).

The TTM posits that individuals move through six stages of change: precontemplation, contemplation, preparation, action, maintenance, and termination. This is illustrated in figure 1.

For each stage of change, different intervention strategies are most effective at moving the person to the next stage of change and subsequently through the model to maintenance, the ideal stage of behaviour (Prochaska et al., 2015). TTM provides strategies for health interventions to address people at various stages of the decision-making process. This can result in interventions that are tailored and effective. The strength of TTM is that it encourages an assessment of an individual's current stage of change and accounts for relapse in people's decision-making process (Brug et al., 2005).

Limitations of TTM include: the theory ignores the social context in which change occurs (such as socio-economic status and income); the lines between the stages can be arbitrary with no set criteria of how to determine a person's stage of change; the questionnaires that have been developed to assign a person to a stage of change are not always standardised or validated; there is no clear sense for how much time is needed for each stage, or how long a person can

NOTIONS OF HEALTHY  
BEHAVIOUR AND  
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HAVE BEEN  
CONSIDERED TO  
BE EVER-MORE  
IMPORTANT  
VARIABLES  
FOR PREDICTING  
PATIENT OUTCOMES

Stages of change

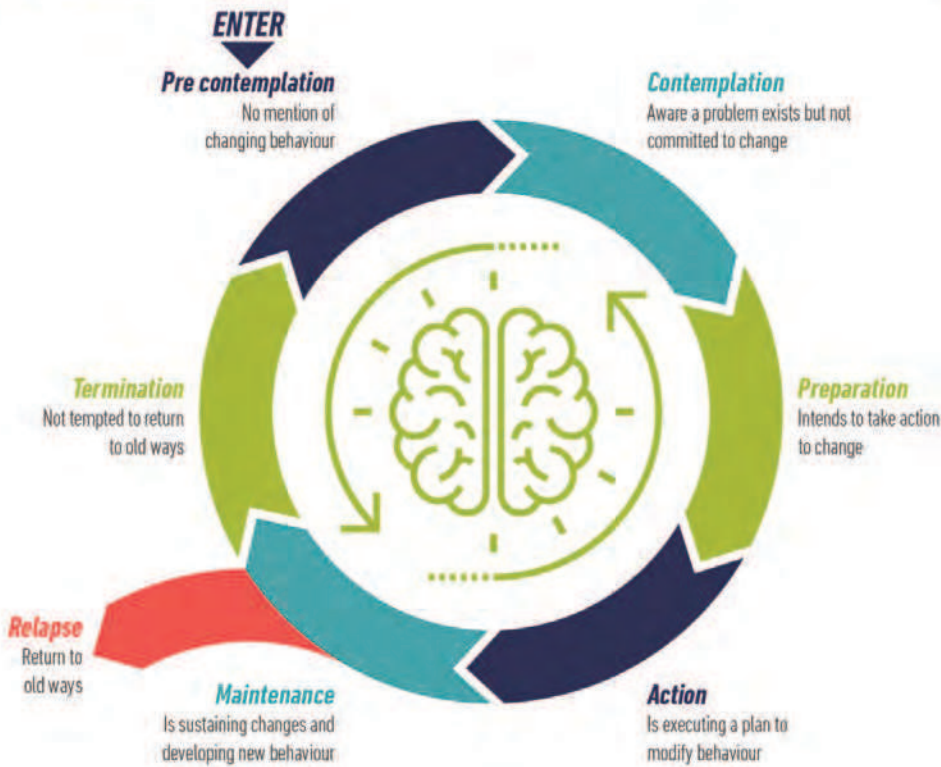


Figure 1 – Transtheoretical Model of Change

Notes:

remain in a stage; and the model assumes that individuals make coherent and logical plans in their decision-making process when this is not always true (Adams and White, 2005).

## Theory of Planned Behaviour

The Theory of Planned Behaviour [TPB] was described by Ajzen (1985) and seeks to provide a model that can predict an individual's intention to engage in a behaviour at a specific time and place. The theory was intended to explain all behaviours over which people have the ability to exert self-control. The key component to this model is behavioural intent which is influenced by the person's attitude towards the likelihood that the behaviour will have the expected outcome and the subjective evaluation of the risks and benefits of that outcome (Dilekler et al., 2021). The TPB states that behavioural

achievement depends on both motivation (intention) and ability (behavioural control). It distinguishes between three types of beliefs - behavioural, normative, and control. The TPB is comprised of six constructs that collectively represent a person's actual control over the behaviour. These are: attitudes; behavioural intention; subjective norms; social norms; perceived power and perceived behavioural control (Ajzen, 1985). Figure 2 provides an illustration of TPB.

Dilekler et al (2021) reviewed TPB in the context of diabetes behaviours and indicated that the strengths of this theory lay in the applicability of TBP spanning across all facets of planned behaviour – not just healthcare – meaning that recognising how specific health behaviours of an individual may sit within the context of their general behaviours may make them easier to

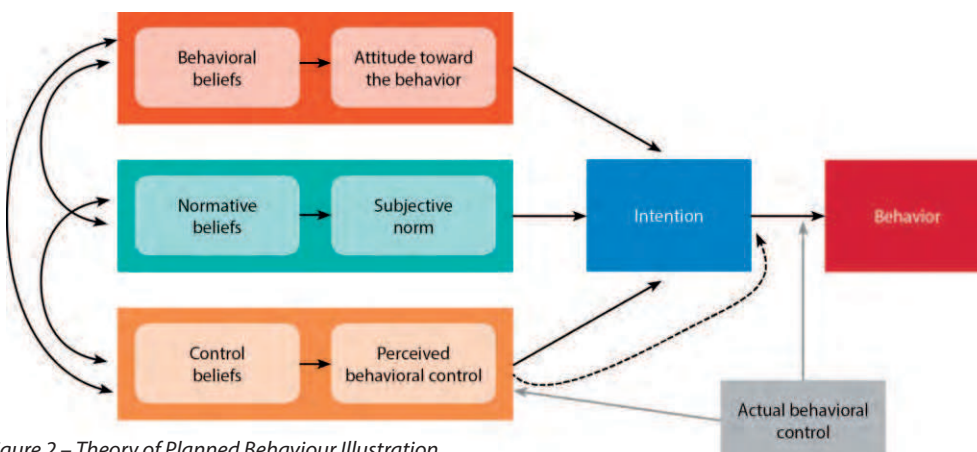


Figure 2 – Theory of Planned Behaviour Illustration

# Health Behaviours and Behaviour Change

understand. However, TBP does have some oft-cited limitations including: implicit assumptions that the person has acquired the opportunities and resources to be successful in performing the desired behaviour, regardless of the intention; it does not account for other variables that factor into behavioural intention and motivation (such as fear, threat, mood, or past experience); whilst it does consider normative influences, it still does not take into account environmental or economic factors that may influence a person's intention to perform a behaviour; it assumes that behaviour is the result of a linear decision-making process, and does not consider that it can change over time; and the time frame between "intent" and "behavioural action" is not addressed (Ajzen, 2011).

## Social Cognitive Theory

Social Cognitive Theory (SCT) was articulated by Bandura (1986) having built on his previous works and posits that learning occurs in a social context with a dynamic and reciprocal interaction of the person, environment, and behaviour. The unique feature of SCT is the emphasis on social influence and its emphasis on external and internal social reinforcement. SCT considers the unique way in which individuals acquire and maintain behaviour, while also considering the social environment in which individuals perform the behaviour. The theory takes into account a person's past experiences, which factor into whether behavioural action will occur. These past experiences influence reinforcements, expectations, and expectancies, all of which shape whether a person will engage in a specific behaviour and the reasons why a person engages in that behaviour (Luszczynska and Schwarzer 2015). An illustration detailing SCT and how it influences behaviours is presented in figure 3.

Many theories of health behaviour do not consider maintenance of behaviour, but rather focus on initiating behaviour. A strength, therefore, of SCT is that its goal is to explain how people regulate their behaviour through control and reinforcement to achieve goal-directed behaviour that can be maintained over time (Luszczynska and Schwarzer 2015). However, limitations of SCT include: The assumption that changes in the environment will automatically lead to changes in the person; that it is loosely organized, based solely on the dynamic interplay between person, behaviour, and environment (it is unclear the extent to which each of these factors into actual behaviour and if one is more influential than another); that it heavily focuses on processes of learning and in doing so disregards biological and hormonal predispositions that may influence behaviours, regardless of past experience and expectations; and that it does not focus on emotion or motivation, other than through reference to past experience (Tougas et al., 2015). These limitations notwithstanding, SCT has been widely used in health promotion given the emphasis on the individual and the environment – the latter of which has become a major point of focus in recent years for health promotion activities.

## Information-Motivation-Behavioural Skills Model

The Information-motivation-behavioural Skills (IMB) Model was developed by Fisher and Fisher (1992) when they found that behavioural change was a function of an individual's possession of three factors: information, motivation and behavioural skills. They consolidated these findings into a generalisable model that has served as a framework for interventions and as a reference for understanding various behaviour

THE UNIQUE  
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SOCIAL INFLUENCE  
AND ITS EMPHASIS  
ON EXTERNAL AND  
INTERNAL SOCIAL  
REINFORCEMENT

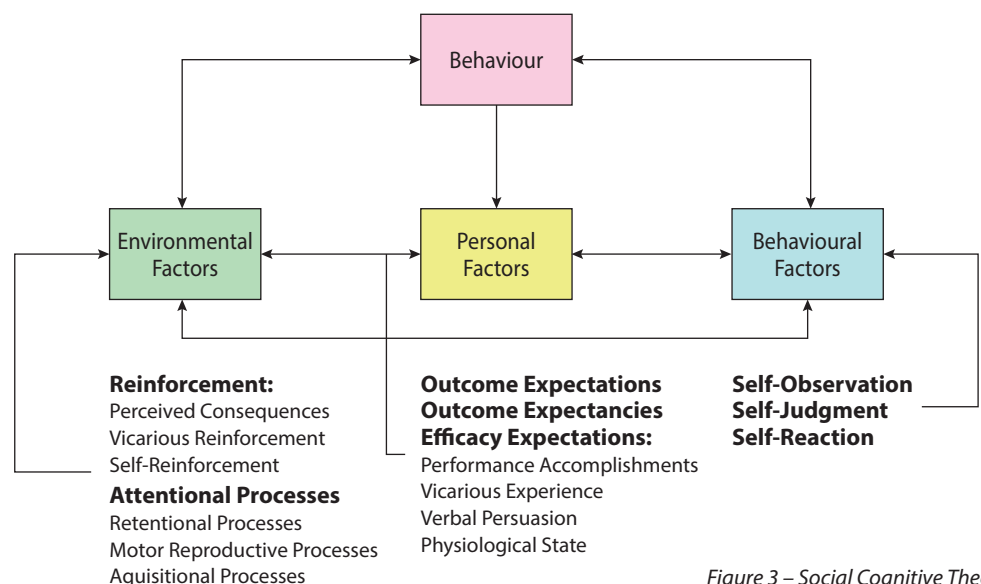


Figure 3 – Social Cognitive Theory

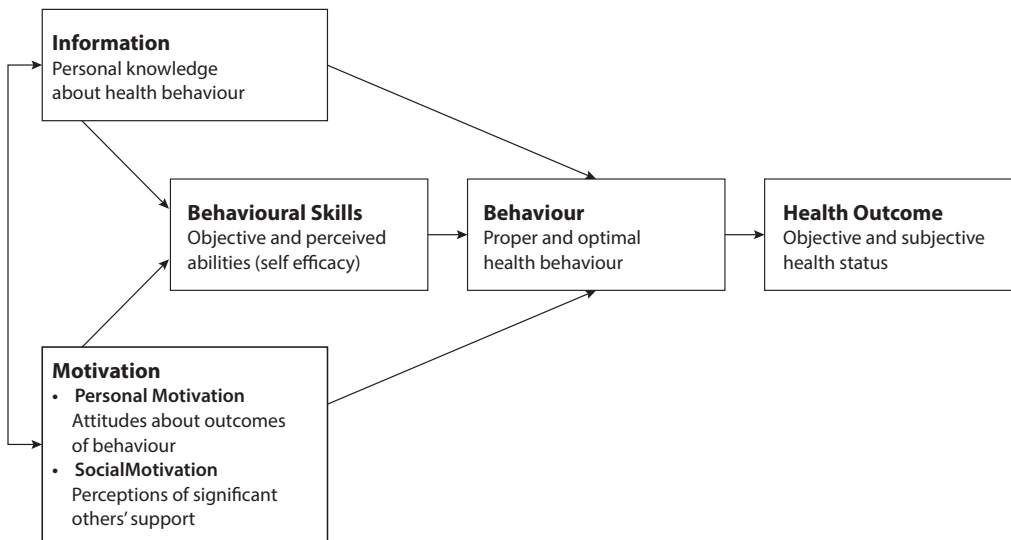


Figure 4 – Information-Motivation-Behaviour Skills Model

changes both within and outside the health field. The three elements of the model interplay to influence a behavioural change are: Information (the individual has relevant information concerning the behaviour and its implications); Motivation (the individual's attitude toward the behaviour and the consequences of that behaviour – which is influenced by both personal and social motivation); and Behavioural Skills (the resources necessary for the individual to carry out behaviour – the individual must have both ability and self-efficacy). In this model, both information and motivation activate the behavioural skills necessary for behaviour change (Chang et al., 2014). The visual representation of the IMB Skills Model is presented in figure 4.

Despite the similarities in theoretical constructs (e.g., attitudes, subjective norms, and intentions) between the IMB model and its antecedents, the IMB model differs in that it does not posit intentions as the largest predictor of behaviours. Intentions are instead just one component of several within the motivational aspect of the IMB model (John et al., 2017). Sharma (2012) points out that the one big advantage of this model is that it is a parsimonious model with only three constructs which make them relatively easy to operationalise. However, one significant limitation is that the information construct of this model is

a weak and inconsistent predictor of behaviour (Sharma, 2012; John et al., 2017). On the whole, the IMB model is a comprehensive conceptual framework that can be applied to a variety of health behaviours.

### Capability-Opportunity-Motivational Behavioural Model

The Capability-Opportunity-Motivational Behavioural Model (COM-B) model for behaviour change was developed by Michie et al (2011) and cites capability, opportunity, and motivation as three key factors capable of changing behaviour. Capability refers to an individual's psychological and physical ability to participate in an activity. Opportunity refers to external factors that make a behaviour possible. Lastly, motivation refers to the conscious and unconscious cognitive processes that direct and inspire behaviour (Michie et al., 2011). The representative illustration of this model is presented in figure 5.

THE COM-B IS ALSO  
OFTEN USED IN  
CONJUNCTION WITH  
THE BEHAVIOUR  
CHANGE WHEEL,  
WHICH IDENTIFIES  
CATEGORIES OF  
INTERVENTION

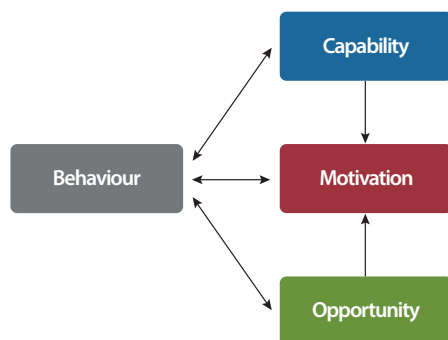
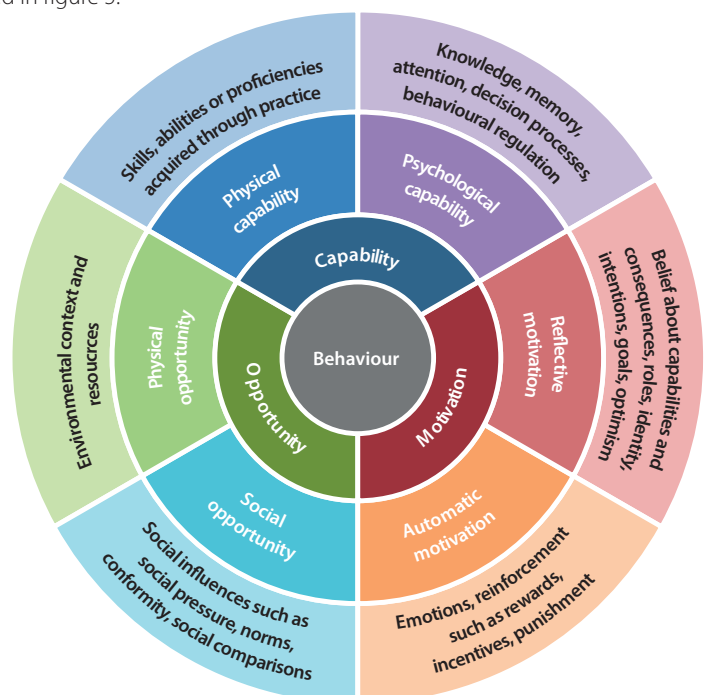


Figure 5 – COM-B Model and 'Behaviour Change Wheel'



# Health Behaviours and Behaviour Change

This model recognizes that behaviour is influenced by many factors, and that behaviour changes are induced by modifying at least one of these components. The COM-B model has been particularly important when considering intervention methods, as interveners need to ensure the sustainability of learned behaviour. The COM-B model of behaviour change proposes that to engage in a behaviour at any given moment, a person must be physically and psychologically able and have the opportunity to exhibit the behaviour, as well as the want or need to demonstrate the behaviour at that moment. This model is effective because it identifies what component of behaviour needs to be changed in order for an intervention to be successful (West and Michie, 2014). The COM-B is also often used in conjunction with the behaviour change wheel, which identifies categories of intervention. The main limitation to this model was argued by Ogden (2016) who pointed out that variability

in people and their interactions was overlooked within this model and that limiting human variability by using the COM-B model and behaviour change wheel is not necessarily desirable.

## Conclusion

These five, seminal, behaviour models provide common themes amongst their divergences. Most notably that information, patient beliefs, patient experiences and motivation are central to understanding individuals' behaviours – particularly in the context of their health. These are useful theoretical concepts to keep in mind when seeking to understand patient perspectives and they also provide utility when seeking to appraise any given behaviour change intervention.

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Notes:



THE SMAE INSTITUTE

**CLOSING DATE  
FOR NOMINATIONS  
8 JANUARY 2022**



# Do you know a Practitioner that excels in the care for their patients?

Someone who deserves recognition for  
their role within the community?

## Put your selected nominee forward for 'Practitioner of the Year 2021 Award'

We want to reward those members who continue to develop themselves professionally, go the extra mile, and enjoy their role within the community. The winner of "Practitioner of the Year 2021" shall receive a place at one of our 2022 CPD Events (Summer School or Annual Conference) and a certificate, along with publicity on the SMAE Institute Website and in the 2022 Quarterly Journal. The runner up shall receive a CPD of their choice, from our Workshop or CPD@Home range.

The nomination process is straightforward and can be completed easily by an involved third party (a colleague, or client). The winner will be announced in Spring 2022 Journal.

### HOW THE NOMINATIONS WORK:

- Nominees should be Members of The SMAE Institute.
- A nomination will only be accepted for a named individual or individuals.
- Third-party nominations are accepted.
- Nominations must be supported by client referees prepared to provide testimony if your nomination is shortlisted.

Let us decide who the winners are - don't count yourself out of the application process - YOU could be an award winner!

**Please email the following details to Janet McKane at [jmckane@smaeinstitute.co.uk](mailto:jmckane@smaeinstitute.co.uk)**

- Details of why you feel the nominee/nominees deserve to be rewarded
- Yours and the nominees name and address

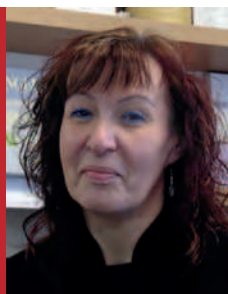
### Previous Winners



**2017 Lesley Tanner**  
MCFHP MAFHP



**2018 Ian Mitchell**  
MSSCh MBChA



**2019 Trish Parker**  
MCFHP MAFHP



**2020 Lesley Tanner**  
MCFHP MAFHP



**2021 WINNER**  
THIS COULD BE YOU!

# Diploma in Local Anaesthesia



COST  
£1,600\*

[www.smae-la.co.uk](http://www.smae-la.co.uk)

The timetable for the 2022 Diploma is as follows:

**Open / Registration Day** (Location: The SMAE Institute)  
Saturday 19th February 2022  
This was a pre-requisite for those who wish to enrol

**Introductory Lectures** (Location: The SMAE Institute)  
Friday 20th May 2022

**Module 1** (Location: e-Learning)  
Begins: Monday 23th May 2022

**Module 1 Assessment Submission**  
Friday 18th August 2022

**Module 2** (Location: e-Learning)  
Begins: Monday 26th September 2022

**Module 2 Assessment Submission**  
Friday 9th December 2022

**Clinical Practice**  
February 2023

The **Open Day for the 2022 Cohort** will be held on Saturday 19th February 2022. If you are interested and would like to attend please contact Gill Hawkins at [ghawkins@smaeinstitute.co.uk](mailto:ghawkins@smaeinstitute.co.uk)  
More information about this Diploma can be found at [www.smae-la.co.uk](http://www.smae-la.co.uk)

*Please note: Those wishing to enrol onto this course must provide evidence of registration with the HCPC.*

\* Instalment Option Available

# Diploma in Prescription Only Medicines



COST  
£825\*

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**Our next cohort begins December 2022.**  
**More information about the 2022 cohort can be found at [www.smae-poms.co.uk](http://www.smae-poms.co.uk)**

**Open / Registration Day** (Location: The SMAE Institute)  
Saturday 5th November 2022  
This is a pre-requisite for those who wish to enrol

**Introductory Lectures** (Location: The SMAE Institute)  
Friday 25th November 2022

**Module 1** (Location: e-Learning)  
Begins: Monday 28th November 2022

**Module 1 Assessment Submission**  
Monday 3rd April 2023

**Examination** (Location: The SMAE Institute)  
May 2023 (tbc)

If you are interested in the 2022 POMs Cohort, please contact Gill Hawkins at [ghawkins@smaeinstitute.co.uk](mailto:ghawkins@smaeinstitute.co.uk) for more information and to book yourself a place on the upcoming Open/Registration Day.

*Please note: Those wishing to enrol onto this course must provide evidence of registration with the HCPC and demonstrate annotation in LA on the HCPC Register.*

\* Instalment Option Available

## Reflect, discuss, develop: the benefits of supervision

Over the course of your career, you may be expected to supervise or support colleagues and students. Alternately, you may receive supervision to develop your own professional skills and competence in a certain area.

Whether you are providing or receiving supervision, it's important that you can do this safely and effectively, and in a way that enables you to meet your intended learning objectives.

As part of the Meeting our standards section of the HCPC website, we focus on supervision, the benefits and outcomes of effective supervision, approaches to supervision, case studies and templates to demonstrate how to approach supervision effectively

You can find all our resources on supervision here <https://www.hcpc-uk.org/standards/meeting-our-standards/supervision-leadership-and-culture/supervision/>

## New guidance on health and character declarations - what you need to know

Following the consultation earlier this year on revisions to our Guidance on Health and Character, our Council approved the new guidance in July 2021. See the new guidance here <https://www.hcpc-uk.org/registration/health-and-character-declarations/>. The new guidance provides clear explanations of when applicants or registrants need to declare issues with their health or character and the kind of information they would need to provide.

As a registrant, meeting the standards includes a personal responsibility to maintain your own fitness to practise and requires you to give us information about any changes to your health or character that might affect your ability to practise safely and effectively.

We have a range of resources on the HCPC website which explains what a health and character declaration is, how to make a declaration and what happens afterwards, as well as case studies that help explain how you might assess risk, manage your fitness to practise and ensure you continue to meet your HCPC standards.

## Connect with us

To keep in touch and up-to-date on our latest developments, follow us on social media. You can:

**Tweet** us @The\_HCPC

**Follow** us on [www.linkedin.com](https://www.linkedin.com/company/hcpcuk)

**Find** us on [www.facebook.com/hcpcuk](https://www.facebook.com/hcpcuk)

**Watch** us on [www.youtube.com/user/HCPCKuk](https://www.youtube.com/user/HCPCKuk)

**Visit** our website on [www.hcpc-uk.org](https://www.hcpc-uk.org)

Our Senior Policy Officer Matthew Clayton has also written a blog on the new guidance, which you can read here.

<https://www.hcpc-uk.org/news-and-events/blog/2021/health-and-character-guidance/>

## HCPC perceptions survey – we want to know what you think

This year, we launched a new Corporate Strategy and a commitment to meet our values to be fair, compassionate, inclusive and enterprising. Understanding how our stakeholders view us now, and as we deliver against our strategy and values, is an important measure of our performance.

We have launched a stakeholder survey to find out your views about the HCPC so that we can understand your perceptions of us and how these might change as we deliver our new Corporate Strategy. Your views will help influence and shape the service we provide to you.

Please take a moment to complete our survey, which closes on 30 November 2021.

[https://www.smartsurvey.co.uk/s/HPCP\\_Perceptions\\_Stakeholders\\_2021/](https://www.smartsurvey.co.uk/s/HPCP_Perceptions_Stakeholders_2021/)

Please ensure that you select the right survey for your stakeholder group (e.g., registrant, employer, education provider, etc) as the questions are tailored to you.

## Latest updates from HCPC Chair Christine Elliott

Read the latest blogs from our Chair for updates of how HCPC are working to reach the key decisions and initiatives.

Find out about the latest updates about the revised health and character guidance, our fitness to practise improvement programme, regulatory reform, the HCPC professional liaison service and much more on the HCPC website.

Notes:



THE SMAE INSTITUTE™

# BSc (Hons) **PODIATRY**

## About the course

The SMAE Institute, in collaboration with Queen Margaret University (QMU), is proud to introduce this four-year distance based, blended elearning BSc (Hons) Podiatry course. On this course you'll gain the knowledge, practical skills and confidence that you'll need to practise as a registered podiatrist in the private sector or NHS.

This is a four-year, distance learning honours degree, at levels 7-10 on the Scottish Credit Qualification Framework (SCQF), that is designed to enable those who have successfully completed the SMAE Institute Diploma in Foot Health, which is credit rated by QMU, to progress to eligibility to apply for HCPC Registration.

## Course Overview

**Duration:** 4 years  
distance learning

**Start Date:** September 2022

**Format:** Distance based,  
blended elearning

**Fees:** £3,999 per year  
(payment options available)

**Awarding Body:** QMU



This course will not only develop you to the standard required for eligibility to apply for HCPC registration, but will also give you the skills, attributes, clinical experience, plus personal and professional confidence to be at the forefront of the profession and to become the future influencers, managers and leaders of the profession. This course aims to develop a podiatrist who is a patient focused practitioner, reflective in all aspects of practice, and proactively engaged with learning and professional development to enhance and advance both their individual practice and their profession.



Queen Margaret University  
EDINBURGH  
Collaborative Partner

## Course Structure

This course is delivered via blended e-learning, which means as a student you would be working at a distance via the internet (utilising a Virtual Learning Environment (VLE)) as well as attending lectures, practical and clinical sessions at The SMAE Institute. In addition to this, students will also attend placements in the private and third sector. Whilst most content is delivered online, lecturers will guide you through your learning and provide one-on-one and small group support throughout. Each year students will be required to attend clinical training and/or placements, and schedules.

## Teaching, learning and assessment

This is a distance-based, blended e-learning course that requires dedicated hours of study commensurate with full-time learning. Each module has dedicated weekly live tutor chat sessions with the designated module leader (tutor), who is also available via personal email and telephone at scheduled times. There is also administrative support staff available online and via telephone daily. The module forums are accessible for each module to provide a virtual classroom environment and will be accessed and supported by staff and tutors alike. The assessment method varies from module to module and the majority of the course will be distance learning with some compulsory attendance. The dates of attendance required are given to students at the beginning of the course so that they can plan ahead.

Whilst The SMAE Institute is the organisation delivering your study, on this course you will be also be a student of Queen Margaret University (QMU). As such you'll be given access to their learning resources and have a QMU VLE (virtual learning environment) username and password.

## Course Modules

### YEAR ONE

Module Name	Module Description
<b>Manual Handling</b>	This module is designed to provide the student with the knowledge and skills required to develop an analytical, reflective and professional approach to implementing safe manual handling.
<b>Clinical Studies 1</b>	This module is designed to enable the student to acquire the knowledge and skills necessary to investigate, diagnose and manage a range of common lower limb pathologies seen in low risk patients.
<b>Locomotor Science and Anatomy – The Foot and Ankle</b>	This module introduces the student to the mechanical principles that underpin gait analysis and explores in detail the structural anatomy of the lower limb, with particular emphasis on the ankle and foot.
<b>Locomotor Science and Anatomy 2 – Normal Gait</b>	This module explores in detail the structural anatomy of the lower limb, with particular emphasis on the leg, knee and thigh as well as the gait cycle and normal developmental variants.





## YEAR ONE

Module Name	Module Description
<b>Cell Biology, Physiology and Microbiology</b>	This module enables students to develop an understanding of the role of Podiatry and other health disciplines in the context of cell biology, physiology and microbiology. There is a focus on the structure, function and neuro-humoral regulation of the endocrine system, and its relationship to other major physiological systems as well as developing knowledge and understanding of microbial growth and survival emphasising features relevant to interactions with humans and human health.
<b>Evidence Based Healthcare – Sourcing and selecting literature to understand and inform research</b>	This module develops student understanding of the use of research in evidence-based health care delivery; through guided exploration of the ways in which research informs development and implementation of guidelines for clinical practice.

## YEAR TWO

Module Name	Module Description
<b>Clinical Studies 2a</b>	This module enables a student to develop an understanding of the underlying principles of pharmacological therapy and the rationale for treatment relating to the cardiovascular, autonomic and inflammatory response. It also develops a student's theoretical knowledge and practical skills required to administer digital local analgesia (POM-A as per HCPC annotation).
<b>Clinical Studies 2b</b>	This module enables the student to investigate and diagnose a range of pathologies related to soft tissue and structural anomalies, and consider and demonstrate appropriate therapeutic regimes including the use of functional foot orthoses.
<b>Pathophysiology</b>	This module provides knowledge and understanding of the pathological processes relating to the systems covered in human physiology. It will introduce students to the concept of problem-based medicine and provide deeper understanding of physiological processes and the application to the clinical context. This module will also focus on the role of Podiatry within the broader context of multi-disciplinary care in managing patients with chronic and / or complex pathology.
<b>Disorders and Management – Musculoskeletal conditions</b>	The module provides the student with the necessary skills and knowledge base to diagnose and carry out effective management strategies for musculoskeletal conditions affecting the lower limb.



## YEAR TWO

### **Professional Issues – Part 1 – Professionalism**

This module prepares the student for registered practice as a Podiatrist by enabling them to critically examine and interpret the elements of professionalism within the contexts of delivering healthcare and podiatric practice. This will be considered against the backdrop of Interprofessional working,

## YEAR THREE

### **Module Name      Module Description**

#### **Clinical Studies 3**

This module develops students skills in examination, evaluation and management of the 'high risk' lower limb by developing high level psychomotor skills and by developing skills to undertake evidence based podiatric practice (in particular developing familiarity with NICE and SIGN guidelines). This module also enables students to gain experience of utilising POM-A in using digital block analgesia, and undertaking nail surgery procedures.

#### **Locomotory Science and Anatomy 3 – The hip, pelvis, nerve supply and pathological gait**

This module explores the structural anatomy of the lower limb with particular emphasis on the hip, pelvis and the motor & cutaneous nerve supply to the lower limb and helps students to develop a knowledge base and the skills required to distinguish between normal gait changes across the life cycle and pathological gait.

#### **Disorders and Management 3**

This module helps the student to develop a deep knowledge and understanding of the physical and psychosocial manifestation of systemic diseases related to Podiatric practice in association with relevant podiatric, pharmacological and surgical management through a problem based and shared learning approach. It further enables the student to critically analyse their own and other health professionals' roles, expertise and perspectives in healthcare practice in the context of lower limb pathology as well as service users' perspectives on self-care

#### **Disorders and Management 3 – Dermatology of the lower limb**

This module provides consideration of the differential diagnosis, potential impact and management of cutaneous and systemic disorders and diseases on the skin of the lower limb. It further enables the student to critically analyse their own and others' roles, expertise and perspectives in healthcare practice in the context of lower limb dermatology

#### **Evidence-based Healthcare – Appraising the Evidence**

This module enables students to develop their understanding of the importance of appraising evidence and helps them to develop their ability to constructively appraise evidence and to construct a focussed literature review.





## YEAR FOUR

Module Name	Module Description
<b>Clinical Studies 4</b>	This module enables the student to fulfil the requirements for eligibility for HCPC registration by consolidating skills in examination, evaluation and management of the 'high risk' lower limb, to enable evidence-based practice. This module further helps the student to develop experience of new patient triage and referral, utilising POMS-S, psychomotor skills such as needling techniques, and anaesthetic techniques such as tibial block.
<b>Disorders and Management 4 – Tissue Viability</b>	This module enables the students to critically investigate/ study the evidence base for factors contributing to cutaneous ulceration, and the effectiveness of current management practices. It further enables the students to critically analyse their own and other health professionals' roles, expertise and perspectives in healthcare practice in the context of cutaneous ulceration.
<b>Evidence-based healthcare – Clinical Audit</b>	This module engages students in decision-making in the context of quality assurance, user perspectives, priorities of service delivery and practice development.
<b>Developing Electronic Resources for Patient Education</b>	This module enables the students to explore a topic of interest relating to patient education in Podiatry presented through electronic media for public broadcast.
<b>Podiatric Mechanics (Elective)</b>	This module enables the student to evaluate and apply current concepts in podiatric mechanics in the management of foot and lower limb pathology with particular reference to podiatric surgical intervention.
<b>Medicine and Pathology (Elective)</b>	This module enables the student to critically appreciate the clinical principles, philosophy and concepts which underpin critically relevant medical conditions and associated pathological changes in the foot.
<b>Professional Issues – Preparation for Registration and Practice</b>	This module provides an opportunity for students to critically consider the skills and attributes required to become an autonomous, HCPC registered private practitioner in the context of inter-professional collaborative working



## Facilities / Placements

You'll consolidate your theoretical learning by working directly with patients during clinical sessions undertaken mainly at the SMAE Institute's purpose built clinic in Maidenhead, Berkshire. Some observational placements will be undertaken within specialist private practices and observational and practical placements will be undertaken in a third sector charity organisation. Academic staff will arrange and co-ordinate your placements, with the aim to be as local to the individual as possible. Where attendance is required, you will be informed of the dates at the beginning of the academic year to enable you to plan ahead.

A summary of clinical/placement attendance is detailed below, however please note that these time-frames are not specifically week blocks of time, but will be spread out across the academic year at a range of placement providers. Full details and dates are given to students at the start of the academic year.

**Year One:** Two weeks clinical/practical attendance

**Year Two:** Two weeks clinical/practical attendance

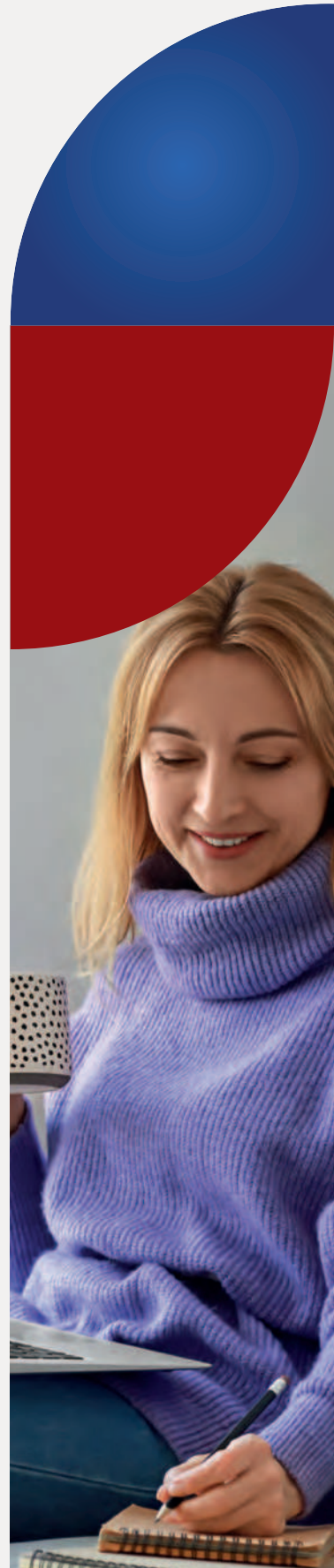
**Year Three:** Five weeks clinical/practical attendance

**Year Four:** Six weeks clinical/practical attendance

## Qualification / Exit points

Successful completion of all four years will give you the award of BSc (Hons) Podiatry and eligibility to apply for HCPC registration.

In certain circumstances, a student may exit the course after completion of Year One with the award of Certificate in Higher Education (120 credits), Year Two with a Diploma in Higher Education (Assistant Practitioner – Podiatry) (240 credits) or Year Three with the award of BSc Health Studies (480 credits). Please note that by exiting the course in Year One, Two or Three, one is not eligible to register with the HCPC, only upon successful completion of Year Four and award of BSc (Hons) Podiatry entitles one to register.





## Entry requirements

- The applicant has normally, within the last 5 years, completed one of the following:
  - successfully completed the SMAE Institute 60 credit diploma in foot health,
  - successfully completed the Diploma in Higher Education (Assistant Practitioner – Podiatry),
  - successfully completed the first year of a BSc (Hons) Podiatry at another University,
  - successfully completed a Foot Health course that can be mapped to the SMAE Institute's Diploma in Foot Health.
- The applicant has a current DBS certificate.
- The applicant has an up to date CPD portfolio (has attended at least one CPD event in the last 12 months and in addition can demonstrate ongoing professional development, for example, reading journal articles and applying them to practice)
- The applicant has up to date vaccination against Hep B, has had a recent eye sight test, and are encouraged to declare any disabilities (physical, mental or learning).
- The applicant has provided a suitable character reference (where the applicant is previously unknown to The SMAE Institute)
- If English is a second language the applicant has achieved an IELTS English equivalency level 6 or above (scoring above 5.5 in each section) (successful completion of the access courses outlined above would satisfy this).

## Fees and funding

The course fees for this programme will be £3,999 per academic year.

### Payment options (per academic year)

- A deposit of £424.00 followed by 11 monthly payments of £325.00 (0% Interest)
- A deposit of £710.00 followed by 11 monthly payments of £299.00 (0% Interest)
- One off payment (£3,999.00 per academic year)
- Sponsor (details of your sponsor would be requested)

### What's included?

You may have to pay additional costs during your studies. A summary of the costs that you may be expected to pay, and what is included in your fees, while studying this course are listed here:

- DBS checks, where required, are included in the course fees.
- Access to learning resources through the virtual learning environment and the QMU library is included.
- Instruments used in clinical placements are provided by the establishment.
- Where your course includes a placement, travel costs are not included in the course fees.
- Insurance for your clinical practical placements is included.
- Clinical clothing, where required, is not included in the course fees. However, any relevant PPE will be provided to the student at placement sites.



## Professional registration

This course is approved by the Health and Care Professions Council (HCPC). Successful completion enables application for registration with the Health and Care Professions Council as a Podiatrist.

## Awarding body



Queen Margaret University

EDINBURGH

Collaborative Partner

## Open day and admissions



If you are interested in studying this course, please contact Janet McKane at The SMAE Institute ([degree@smaeinstitute.co.uk](mailto:degree@smaeinstitute.co.uk)) who will initially send you an application form to complete to ensure eligibility. This application form will provide pre-screening questions outlining the admission criteria (set out above). If you meet the entry criteria, The SMAE Institute shall then invite you to an open day followed by an informal interview. The interview panel will consist of one of the programme co-leads, the quality assurance manager and a service user (patient). All members of the interview panel pre-agree the questions that will be asked before the interview takes place. The interview process shall consist of cross-checking the pre-screened applications to see that prospective students do indeed meet the correct entry criteria.

Following the interview the SMAE Institute shall select appropriately qualified students for offer of admission as students of the Institute/University and formally offer them a place. Should you be unable to travel to the SMAE Institute for an interview then you may be offered an online virtual interview via Zoom.

**The open day for the 2022 cohort will be held virtually on 21st May 2022.  
To register your interest in the 2022 cohort open day please email  
Janet McKane at [degree@smaeinstitute.co.uk](mailto:degree@smaeinstitute.co.uk)**



# The structure and function of skin moisturising preparations



**Michael Ratcliffe**  
MRCPod FRCPodM FFPM  
RCPS(Glasg) BSc MSc Cert Ed  
Sales Training Manager -  
Cuxson Gerrard

## Introduction

The clinical management of foot and leg skin conditions, where the natural barrier function of the epidermis is impaired, e.g. in dry or xerotic skin, generally involves advising the daily application of a moisturising preparation, e.g. cream, lotion or ointment. In this article the anatomy of the stratum corneum (the outermost layer of the epidermis) its protective barrier role and the importance of optimum hydration is outlined. The general structure and function of skin moisturising preparations are examined, their modes of action in achieving optimal epidermal hydration are explained and finally a suggestion is put forward on how to make a choice about which preparation to use when presented with xerotic skin based on identifying the moisturising preparation ingredients.

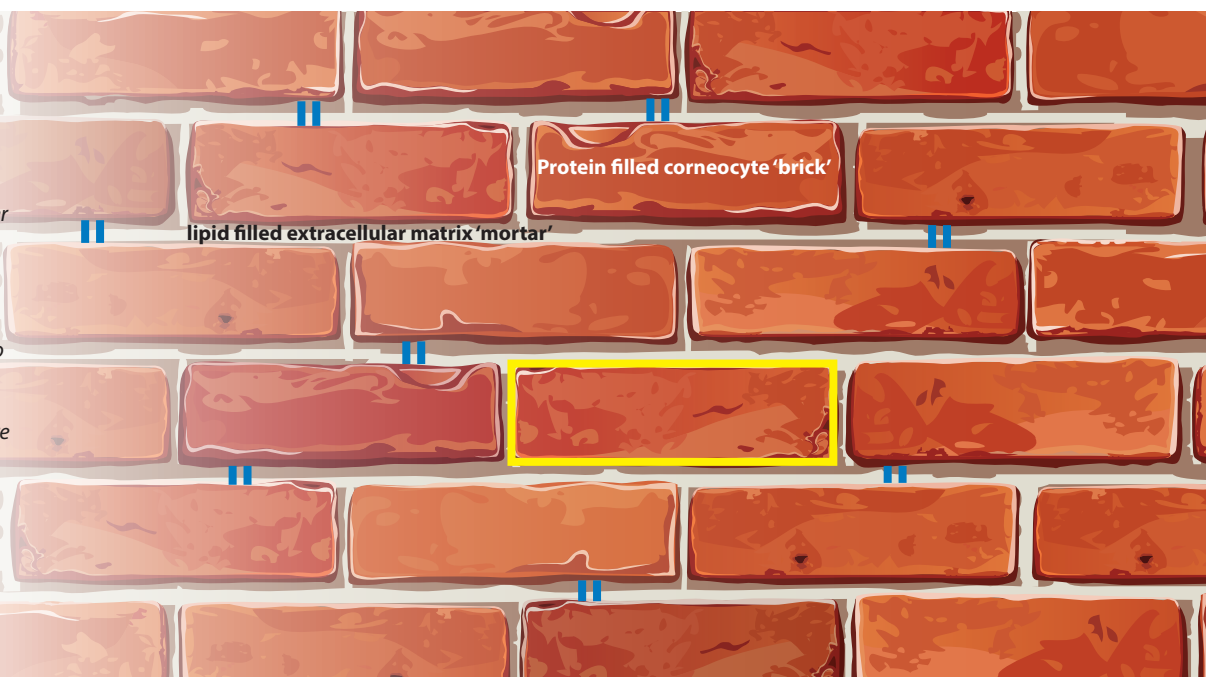
## The anatomy of the stratum corneum, its protective barrier role and the importance of hydration

The primary function of the skin, and in particular the epidermis, is to present an effective physical and biochemical barrier between the 'inside' and the 'outside' of our bodies, achieving this function via a complex system of continually renewing, differentiating (from nucleated keratinocytes in the lower epidermal layers to non-nucleated corneocytes in the stratum corneum) and

desquaming epidermal cells and other inter-related barrier components and processes (Proksch et al. 2008).

In the front line of this formidable barrier is the outermost layer of the epidermis - the stratum corneum. With its complex 'brick wall' arrangement of flattened non-nucleated corneocyte 'bricks' and inter-corneocyte lipid 'mortar' see Figure 1., it is able to defend the 'inside' against environmental 'outside' challenges, e.g. mechanical forces, ultraviolet radiation, pollutant chemicals and microbial penetration, and also able to prevent excess water loss from the 'inside', i.e. maintain normal trans epidermal water loss (TEWL) stopping desiccation. (TEWL is a natural process that regulates epidermal

*Figure 1. The Bricks and Mortar 'Brick Wall' Model of the stratum corneum proposed by Peter Elias (1983) showing the arrangement of protein filled 'bricks', i.e. the keratin filled corneocytes 'cemented' together by the lipid filled extracellular matrix 'mortar' layer, i.e. a layer consisting of principally ceramides, fatty acids and cholesterol. This illustration also shows the protein junctions between the corneocyte 'bricks' that further tighten the structure called corneodesmosomes (blue lines), similar to wall ties in a brick wall, and the protein/lipid envelope that surrounds each 'brick' (yellow lines) that also bonds firmly with the lipid 'mortar'.*



hydration in which water passively evaporates through the epidermis via diffusion to the external environment, on average 300 – 400mL per day (Maibach and Honari 2014.)

To perform these protective functions the stratum corneum must maintain an optimal level of internal hydration which is approximately enough water to form 15% of the stratum corneum's total contents (Marks 2004). The presence of water in the stratum corneum keeps it soft and flexible. Water is also required for the metabolic processes in the epidermis, in particular the desquamation (shedding) of corneocytes preventing scaling/clumping of corneocytes. The water is held principally in the corneocyte by a number of water binding substances, known as humectants (amino acids and salts, one of which is urea) collectively known as natural moisturising factor (NMF). NMF within the corneocyte not only holds water in the cell but also increases the elasticity of the cell (Loden 2003).

Where this hydration is sub-optimal, e.g. through damage or disease, then the epidermal barrier function will be disrupted with consequent increased TEWL and desiccation leading to skin pathologies, e.g. xerosis/dry skin (Augustin et al. 2019).

## The structure and function of skin moisturising preparations

In the United Kingdom topical skin moisturising preparations are regulated (to ensure product safety) as a cosmetic. A cosmetic preparation is defined, in part, as 'Any substance or mixture intended to be placed in contact with external parts of the human body - epidermis, hair system, nails ... with a view exclusively or mainly to... changing their appearance, protecting them, keeping them in good condition...' (Regulation (EC) No 1223/2009).

Topical skin moisturising preparations should therefore fulfil this regulatory definition by ideally delivering these specific functions:

Firstly, the primary function of moisturising preparations is to repair the skin's epidermal barrier function, principally the stratum corneum, by providing remoisturising and film forming substances to hydrate, maintain hydration and offer occlusion of the stratum corneum so reducing excess TEWL and preventing desiccation;

Secondly, to maintain the skin's appearance and integrity by providing lipids and oils to fill the spaces created by fissuring and cracking of the stratum corneum and from non-uniform desquamation of corneocytes;



Thirdly, to help restoration of the lipid barrier within the stratum corneum by providing similar types of lipids to replenish those found in the stratum corneum's lipid filled extracellular matrix 'mortar' layer re-enabling the natural, occlusive water barrier mechanisms of the extracellular matrix to take place, reducing TEWL and so supplying water to moisten the corneocytes;

Fourthly, to be cosmetically acceptable as a preparation that is rapidly absorbed and long lasting in offering smoother, more flexible skin and reducing areas of irritability and inflammation caused by dehydration. (Loden 2003, Kraft and Lynde 2005, Anderson and Dinulos 2009).

## Modes of action in achieving optimal epidermal hydration

To help deliver the primary (and other) function(s) of a moisturising preparation, i.e. to restore and maintain the primary barrier function of the epidermis, moisturising preparations generally have a similar construction containing ingredients that can be classified broadly into 2 categories – excipients and actives, also called active ingredients or active compounds. Identification

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# The structure and function of skin moisturising preparations

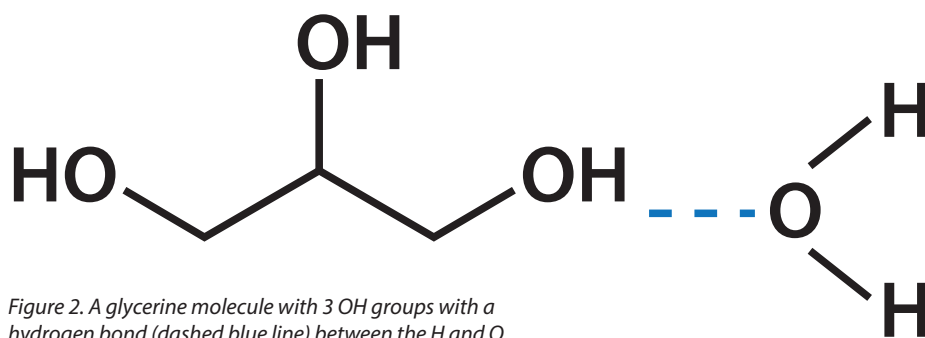


Figure 2. A glycerine molecule with 3 OH groups with a hydrogen bond (dashed blue line) between the H and O of the glycerine and water molecules respectively

of the excipients and actives within a moisturising preparation and therefore their role is one way that clinicians can be helped to choose a preparation that will benefit their patient's dry skin condition.

Excipients are the substances that form the body of the moisturising preparation, giving the preparation stability so that the preparation's constituent ingredients do not deteriorate or crystallize, they are emulsifiers i.e. they keep oils dispersed throughout water rather than being allowed to separate back into oil and water phases, e.g. cetyl alcohol; they are preservatives that prevent contamination of the product by microbial growth from the environment and skin and therefore prevent product deterioration, e.g. phenoxyethanol, and they are fragrances to make the product cosmetically acceptable by smelling nice, e.g. triethyl citrate and linalool. Excipients are a vital part of a moisturising preparation and are not the inert or inactive substances that they were once thought to be (Rowe, Sheskey and Weller 2003). There is often cross over in the actions of the excipients and the actives, for example lanolin which is both an emollient moisturiser and also acts as an emulsifying agent.

Active ingredients, which help define and achieve what type of moisturiser the preparation is, fall into 4 main categories:

**Occlusive moisturisers** – these film forming substances reduce TEWL by forming a hydrophobic (water repelling or non-polar) film over the skin which holds water within the stratum corneum making it available for absorption into the corneocytes. Occlusives also bind with the lipids in the extracellular lipid layer, the 'mortar', contributing to this layer's efficiency (Kraft and Lynde 2005). Common substances used are petroleum jelly, which is probably the most effective occlusive, reducing TEWL by up to 99% (Nolan and Marmur 2012), although Ghadially et al. (1993) posits that the occlusive moisturising action of petroleum jelly is achieved by the formation of a separate layer of its own within the

extracellular lipid layer rather than a distinct layer on the surface of the stratum corneum; mineral oils, e.g. liquid paraffin, plant oils, e.g. safflower seed oil and hydrogenated vegetable oil; and silicon oils, e.g. dimethicone.

**Humectant moisturisers** - these remoisturising substances are hydrophilic (water attracting, polar) compounds that hydrate the stratum corneum by holding water molecules in this layer. Humectants attract water from deeper layers of the epidermis and dermis and potentially from the external environment (Anderson and Dinulos 2009). To be a humectant there must be certain chemical groups present in the substance. These chemical groups are OH (oxygen and hydrogen) and NH (nitrogen and hydrogen) that can form small electrical bonds (called hydrogen bonds) with water and not evaporate easily, i.e. they must be non-volatile (labmuffin.com). Glycerine is a common and very powerful humectant as it has 3 OH groups per molecule to bond with water (H<sub>2</sub>O) molecules (see Figure 2).

Glycerine has an added property in that it maintains stratum corneum lipids in a non-crystalline state as well (Robinson et al. 2008). Another common and powerful humectant is urea which occurs naturally in corneocytes as part of the cell's NMF. Urea has 2 NH<sub>2</sub> groups per molecule which bond in the same way with water as the OH groups via hydrogen bonding. Moisturising preparations have been identified as important in the routine health care of foot skin in those people who have diabetes (Bristow 2013), but more recently a consensus paper of foot health experts recommended moisturising preparations containing urea (between 10 – 25% concentration) be made available on prescription to people with diabetes as part of their routine foot care in the prevention of ulceration (Bowen et al. 2021). Other commonly found humectants are aloe vera and hyaluronic acid, again because of their molecular architecture offering multiple OH groups to bond with water.

EXCIPIENTS ARE  
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**Emollient moisturisers** – these are hydrophobic (water repelling, non-polar) substances that also prevent water loss by supplying a partly occlusive barrier to the surface of the stratum corneum as they fill the spaces left by cracks, desquaming clumps of corneocytes and fissures in xerotic skin and restore a smooth, soft feel and appearance to the skin. Emollients commonly used are saturated fatty acids, essential fatty acids and fatty alcohols, e.g. jojoba oil, safflower seed oil, shea butter, caprylic triglyceride, squalene, propylene glycol, cetyl alcohol and linoleic acid. Linoleic acid has been reported to be involved in the skin's immune system once applied and emollients may therefore have other beneficial physiological effects (Anderson and Dinulos 2009).

**Barrier Repair moisturisers** - these are more recent moisturisers that contain, in addition to other moisturising active ingredients, substances that are identical to those found in the extracellular lipid matrix 'mortar', in particular ceramides (waxy lipid substances), and seek to replenish the deficient lipids such as ceramides, free fatty acids and cholesterol in these layers. This is especially prevalent in skin diseases characterised by barrier defects such as eczema and psoriasis (Spada et al. 2018).

## A suggestion when choosing a moisturising preparation

When choosing which moisturising preparation for your patient, guidance can be sought from the list of ingredients, identifying what type of actives or excipients are present and in what quantity. The list of ingredients is known as the INCI list, which is an acronym for the International Nomenclature of Cosmetic Ingredients. INCI nomenclature is a UK regulatory requirement when bringing a cosmetic to the UK market place and is detailed in Article 33 of the extant European Union Cosmetic Regulations. INCI nomenclature offers standardised names for the majority of excipient and active ingredients in a cosmetic preparation and the order in which they must appear on a packaging label or information leaflet; ingredients in concentrations of 1% or more must be listed in descending order of weight, in other words in order of highest concentration to the lowest.

By identifying the ingredients, it is possible to seek out what types of moisturisers are present (occlusive, humectant, emollient) and if these types are what you are looking for to have the desired clinical effects. Also, ingredients that the patient is allergic to or are undesirable can be identified and marketing and active ingredient claims can be verified (incidecoder.com).

### The INCI list of ingredients:

Aqua	Excipient <b>solvent</b> (for hydrophilic ingredients in the cream) <b>hydrating agent</b> (once inside the SC)
Urea	Active <b>humectant moisturiser</b> (part of the corneocyte NMF) <b>mild keratolytic</b> (20%)
Paraffinum Liquidum	Active <b>occlusive moisturiser</b> and <b>emollient</b>
Paraffin	Excipient <b>stiffening agent</b> (increases the viscosity of the cream, makes it spread easily)
Cetearyl Alcohol	Excipient (with active properties) <b>emulsifying agent</b> and <b>viscosity-increasing agent</b> (and <b>emollient moisturiser</b> )
Steareth-2	Excipient <b>emulsifier</b>
Phenoxyethanol	Excipient <b>antibacterial preservative</b>
Ethylhexylglycerin	Excipient (with active properties) <b>preservative</b> (increases the efficiency of phenoxyethanol), <b>deodorant</b> (and <b>mild emollient</b> )
Mentha Piperita (Peppermint) Oil	Excipient <b>perfume</b>
Imidazolidinyl Urea	Excipient <b>antimicrobial preservative</b>
Citric Acid	Excipient and active <b>buffering agent</b> (keeps the pH – acidity/alkalinity of the cream at a constant, acidity in this case) and <b>mild exfoliant</b> (facilitates removal of corneocytes)
Limonene	Excipient <b>perfume</b> (found mainly in the peel of citrus plants) and <b>solvent</b> (for oil-based ingredients so helps with penetration into the SC) (Rowe, Sheskey and Weller 2003, incidecoder.com)

Using an example of a moisturising cream (creams are a 2-phase emulsion of water and oils in varying quantities), Carnation Footcare Cracked Heel Cream, the roles of the ingredients can be identified (a useful website for quick identification of ingredients and their function is <https://incidecoder.com/> which provides information on a large number of individual ingredients and product ingredients).

This moisturising cream, aimed at treating dry and cracked skin has then one humectant (20% urea) which also facilitates hyperkeratotic exfoliation and is helped by a corneocyte exfoliant (Citric acid). It also has one occlusive moisturiser (Paraffinum Liquidum) and 2 emollient moisturisers (Cetearyl Alcohol and Ethylhexylglycerin). When treating xerotic skin with fissuring the powerful humectant urea has been extensively evaluated (Parker, Scharfbilling and Jones 2017) and is generally considered to be an important active in this treatment. Mineral oil occlusives are generally highly effective at reducing TEWL and the fatty alcohol emollient leaves the skin feeling smooth.

THE LIST OF  
INGREDIENTS IS  
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INCI LIST, WHICH IS  
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INGREDIENTS

# The structure and function of skin moisturising preparations

For the epidermal stratum corneum to effect an efficient barrier function, its optimal hydration is vitally important. Where this barrier function has been damaged, particularly in the presence of dry skin, skin moisturising preparations are able to offer restoration as they contain a wide range

of ingredients that provide and maintain water in the SC and supply other ingredients that the SC can assimilate for structural repair. Investigation of the ingredients in these preparations can assist the clinician in making an effective choice to achieve the desired therapeutic outcomes.

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For exhaustive investigations into each ingredient then the database <https://pubmed.ncbi.nlm.nih.gov> or the search engine <https://scholar.google.co.uk> can be interrogated. For a lighter approach to the chemistry of cosmetic preparations visit <https://labmuffin.com>.



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# Aging – Theories and Fall-Out

## Part II – Body Changes Associated with Getting Older



By Tracey O'Keeffe

MA (Education), BSc (Critical Care),  
RN, MAFHP, MCFHP

Programme Lead  
(Diploma in Foot Health)

This is the second paper in this series. The first instalment reviewed theories of aging and some of the different ways aging can be explained. There are many different theories. Some focus on physical and biological adaptation whilst others explore more how individuals readjust socially and psychologically to growing older so that aging is successful for them individually. Despite all these different opinions and theoretical propositions, what is clear is that longevity brings physical changes within the body. As we get older, we can all see this as we look in the mirror, walk up the stairs or attempt to do things we did when we were younger only to find they are not as easy. Our physical responses to illness, trauma or insult may also seem noticeably different. This second paper will consider some of the changes that occur as the body grows older from a systems approach.

### The Body as an Organised Structure

The human body is structured and organised. Much of the organisation and many of the structures are loosely evident as the embryo starts to develop. As the body moves through childhood, into adult and then subsequently into old age, changes occur. Britannica (2021) suggest these are different to each individual, varying both in terms of rate of change and at what time the changes occur. The changes visible to the naked eye often reflect what is occurred at a deeper and more minute level. As the basic structures change, it becomes evident in what Vina et al. (2007) suggest is loss of efficiency and an inability to maintain homeostasis as effectively. Tortora and Derrickson (2011) suggest homeostasis is the way the body responds and adapts to constant disruption and threats to equilibrium. This is achieved through feedback

systems and the body's subsequent appropriate response. Each part of the whole organised structure must contribute to enable normal status to be maintained.

The body as an organised structure can be a useful way to consider aging. It allows an easier understanding of how small changes affect both larger systems as well as function and the individual's ability to thrive (physically and mentally). The human body can be ordered into levels of structural organisation (see Figure 1) starting with tiny, small molecules and atoms. Like building blocks, they layer into cells, tissues, organs, and systems ultimately creating the human working structure.



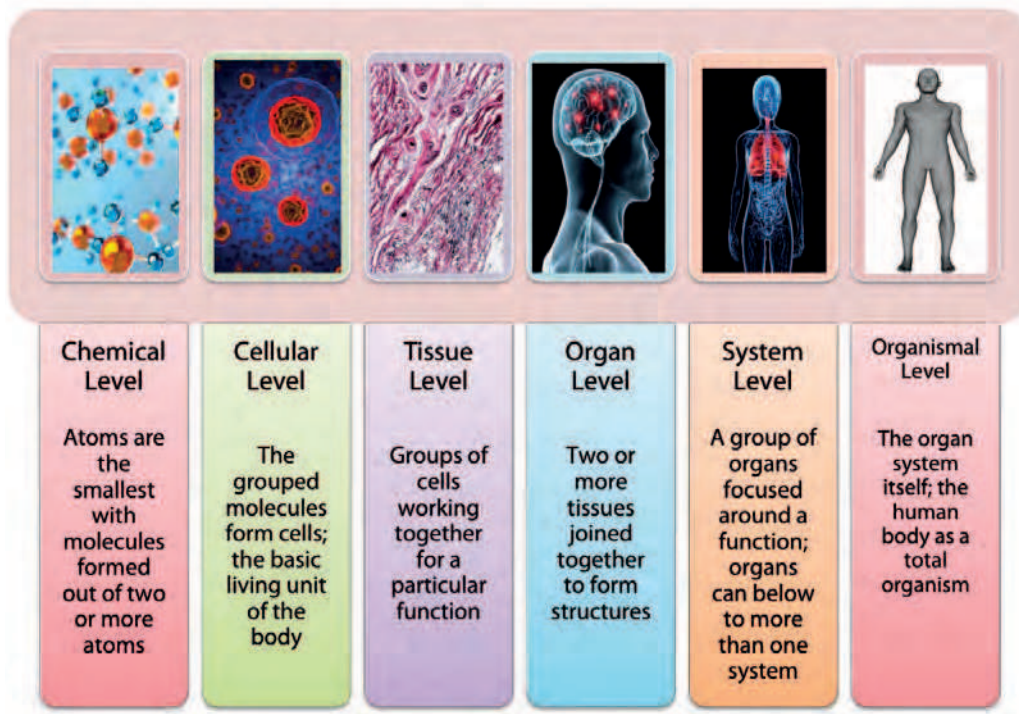


Figure 1 – organisation structure of the human body

When examining the aging body, we can consider each system and how it is affected. The workings of that individual system may be affected by changes to any part of that organisation structure from microscopic anatomy at chemical or cellular level through to the overall ability of a particular organ to function effectively.

Different sources suggest a different number of systems in the human body, however Tortora and Derrickson (2011) outline eleven: integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic and immune, respiratory, digestive, urinary and reproductive. Other authors group or label these

slightly differently. Britannica (2021) for example calls the urinary system the excretory system. Cefalu (2011) also includes the sensory systems when discussing aging as well as referring to the gastrointestinal system rather than the digestive system. Furthermore, skeletal and muscular are often linked together as well to form the musculoskeletal system. For the purpose of this paper, getting the exact wording is actually less significant, as it is clear that the systems overlap each other. Figure 2 outlines the discussion areas which will follow. The first three to be explored will be the respiratory and cardiovascular system, the gastrointestinal system, and the reproductive system.

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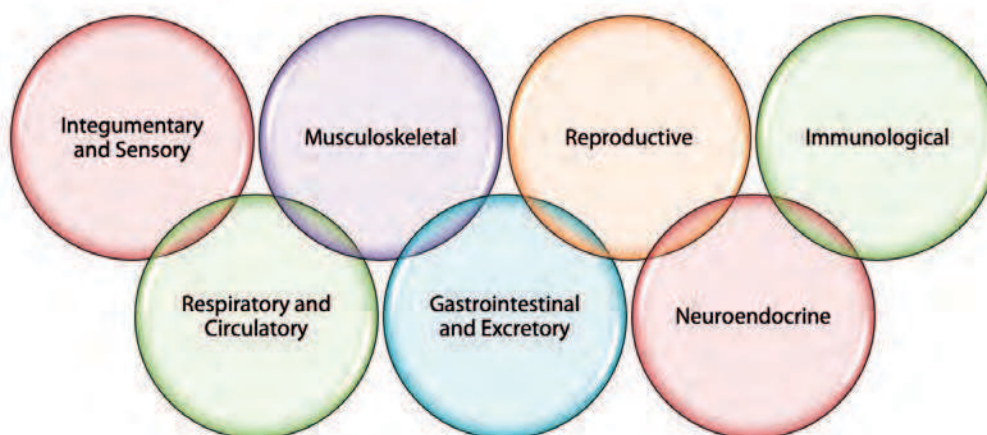


Figure 2 – discussing the body as different systems

# The Respiratory and Cardiovascular Systems

## The respiratory system

The respiratory system is arguably one of the most important systems within the human body as it brings in oxygen vital for life and maintains the pH balance of the blood through control of carbon dioxide levels. Knight and Nigam (2017) suggest the efficiency of the system gradually diminishes with age and Roman et al. (2016) state that there is a 40% decline in pulmonary function and aerobic capacity between the ages of 25 and 80.

There are a number of reasons for the changes to functional ability within the system. Perhaps the first consideration is the mechanical ability of the chest to expand and recoil. Sharma and Goodwin (2006) discuss how the age-related conditions such as osteoporosis can reduce vertebral height with kyphotic changes limiting expansion of the rib cage. Alongside this, there can be stiffness of the thoracic cage due resulting from calcification. Lowery et al (2013) concurs suggesting this reduces the overall volume of the thoracic area. As well as the physical volume of the chest, the muscle strength is reduced with age (Enright et al. 1994, Watsford et al. 2007). Sharma and Goodwin (2006) suggest that changes to the diaphragmatic strength may come from age-related atrophy and decreasing fast-twitch fibres. The intercostals are affected too and this can be exacerbated by a sedentary lifestyle (Nigam et al. 2013). However, McClaran et al. (1995) concluded that overall pulmonary function does not respond well to exercise training. This demonstrates the complexity of the mechanism of breathing.

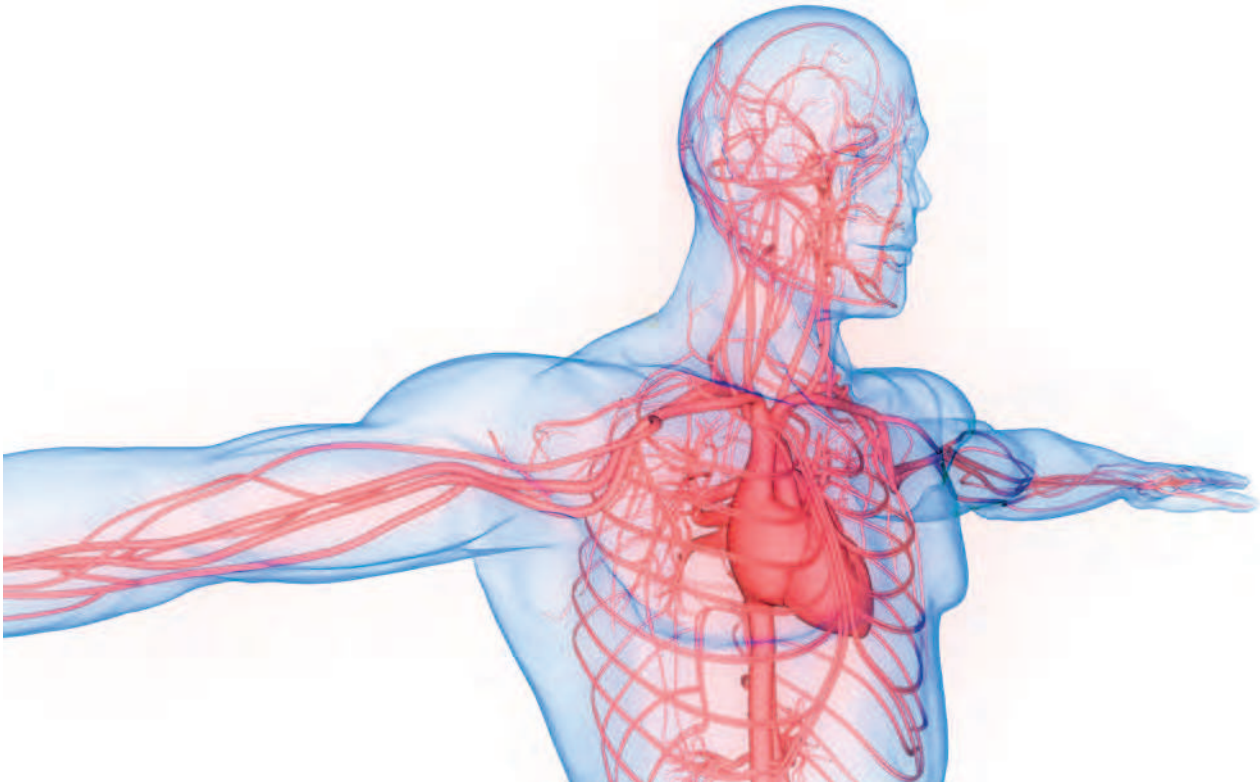
Other factors that may change with age and impact breathing include the elasticity of the lungs as collagen changes occur (Levitzky 1984). The loss of elasticity causes alterations to the airways themselves, changing internal resistance. This can be exacerbated further by increased airspace in the older person through destruction of the parenchyma (Gillooly and Lamb 1993). This is associated with increased dead space which is the volume not used for gas exchange and in the older person breathing distribution appears to be different to younger people, with ventilation focused towards the top of the lungs (Frerichs et al. 2004). Tortora and Derrickson (2011) add in further that the actual linings of the airways may alter with less efficient ciliary action. Macrophage activity is also reduced leaving the person more susceptible to infection pathogens.

## The cardiovascular system

Alongside the respiratory system, the cardiovascular system is crucial to life. It enables the essential transportation of gases and nutrients to tissues, organs and systems. Jakovljevic (2018) suggests that the vascular and cardiac structure alter with age and this affects the overall functional ability. Fleg et al. (2005) and Rosen et al. (1998) state that cardiac output decreases with age, but there is some evidence that left ventricular systolic function is largely unaffected (Lakatta 2003, Bhatta et al. 2014). One affecting factor in cardiac function could be changes to smooth muscle cells (Lopez-Otin, et al. 2013). Alongside this, vascular efficiency and

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responsiveness alters. Knight and Nigam (2017) highlight that effectively functioning arteries have elasticity and are compliant, but with age they become thicker and stiffer. Cross-linking and increased density of collagen affects the blood vessels, particularly the tunica media and tunica intima layers, (Ferrari et al. 2003). The less elastic, flexible vessels with increased stiffness are then prone to rupture and fragmentation (Greenwald 2007).

The increasing rigidity of the vessels affects the blood pressure as the circulating volume is ejected from the heart around the body. Tortora and Derrickson (2011) suggest that this, combined with changing levels of cholesterol and lipids in the blood results in higher blood pressure and less fluidity of blood flow. Endothelial cells work to regulate blood flow and Knight and Nigam (2017) suggest that any damage to that endothelial tissue (possible age-related) can further complicate the situation. Blood pressure tends to increase with age. This can be related to physical changes to blood vessels, but it may also stem from inadequate baroreceptor reflexes (Monahan 2017). The heart muscle itself can also be age-affected. Any thickening or hypertrophy of the heart is not necessarily directly related to aging per se, but it may be as a direct result of other changes described above and the need for the heart to work harder to overcome peripheral resistance (Knight and Nigam 2017). Jakovljevic (2018) does however suggest that there can be some loss of cardiomyocytes which can result in a degree of mild hypertrophy.

Finally for the cardiovascular system, it is also important to consider wear and tear as the heart is a muscle which works continually. Bolton and Rajkumar (2011) suggest this can include build-up of scar tissue or stenosed valves which affect the smooth flow of the blood through the heart structure itself. Any of these changes can reduce the efficiency of the heart





## The Gastrointestinal System

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Jurk et al. (2012) discuss the damage and decline that occurs to intestinal cells and that the evidence suggests there is an causative element of senescence and changes to inflammatory mediators. These changes to the cells of the gastro-intestinal (GI) tract can impact profoundly on the older population. Saffrey (2013; 2019) cites GI problems as “a major cause of morbidity in the elderly...”. Saffrey (2019) stresses that changes with age are not unusual and that the cause can be in extrinsic as well as cellular aging, resulting in a variable individual picture.

The GI tract runs from the mouth to the anus with changes occurring throughout that system. Ritz (2000) discusses challenges to individuals who are edentulous (lacking teeth). Eating habits can be affected and this is compounded by increased dryness of the mouth (xerostomia) as the salivary glands atrophy. Nagler and Herschkovich (2005) also mention possible taste disturbances and burning mouth syndrome, which are related to lack of saliva production as well. Medications affect the oral cavity such as some antidepressants and anti-Parkinsonian drugs (Dumic et al. 2019). Indeed, Britton and McLaughlin (2013) suggest that polypharmacy can be a contributory factor to malnutrition in the elderly.

Moving away from the mouth and further down the tract, there can also be problems with the oesophagus. However, Dumic et al (2019) suggest these tend to be related to comorbidities rather than age-related changes to the structure. Nevertheless, there is some evidence to suggest changes with age from possible alteration in oesophageal peristalsis and emptying (Ferrioli et al. 1996) to alteration in the pressures within the structure and the sphincters (Grande et al. 1999, Nishimura et al. 1996). The variations may only be subtle (Besanko et al. 2014) and may have less to do with cells and more to do with nerve supply (Saffrey 2013).

The stomach can also experience adjustments with age, including a reduction in gastric blood flow, a reduction in the mucosal protection and altered microbiota (Newton 2005, Pearson et al. 2017). Delayed emptying can also occur related to antral distention and changes to fundal compliance (Britton and McLaughlin 2013), but Madsen and Graff (2004) suggest the motility of the stomach remains stable. As with the oral cavity, comorbidities may contribute to some of the changes within the structure (Soenen et al. 2015).



Moving on to the small intestine, there appears to be less change in terms of hormonal secretion and absorption capability (D'Souza 2007). Studies on the large intestine, the colon, are quite discordant (Dumic et al. 2019) in terms of transit time. Any possible changes may be due to alterations in enteric smooth muscle and the enteric nervous system (Salles 2007, Remond et

al 2015, Saffrey 2014). The action of the smooth muscle as a vital component of normal bowel function, and the changes to the contractile properties (Bitar 2003) alongside a reduction in the number of interstitial cells (Gomez-Pinilla et al. 2011) may be causative factors in some of the pathological conditions evident in the elderly.

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## The Reproductive System

As the body ages, so does the reproductive system. Duncan et al. (2018) suggest it is the first human system to age, particularly with women. The related organs can functional decline significantly earlier than other organs within the body. Tortora and Derrickson (2011) note that the male decline is not so overt, but nevertheless it is clear that there is reduced fertility predominantly due to a lessened gamete quality (Kaufman et al. 2019). Shirasuna and Iwata (2017) discuss how the age-related changes may be due in part to cellular and organic senescence. They also suggest involvement of the immune system as a regulatory factor. Although the two systems are different in terms of anatomy, both male and female contain organs grouped by function. The gonads (testes in males and ovaries in females) in particular are relevant to aging as they are responsible for secreting sex hormones. Changes to the production of these hormones, results in many systemic effects evident in the older person.

For women, the changes to the oestrogen production affects other organ structures (Duncan et al. 2018). The fourth decade of life sees a decline in the number of ovarian follicles. Hormonal stimulation continues, however, in the form of follicle-stimulating hormone (FSH) and luteinising hormone (LH), but the ovarian response is reduced (Knight and Nigam 2017). This results in the perimenopause and menopause symptoms experienced such as emotional changes, night sweats and hot flushes (Wagner 2016), muscular pains, insomnia and

weight gain (Tortora and Derrickson 2011). More importantly, from a systemic perspective, is that when follicular activity ceases, the secretion of oestrogen falls rapidly as well (Knight and Nigam 2017). The lower levels affect the bone mineral density (Tortora and Derrickson 2011) with a subsequent increased risk of fracture. Riggs and Melton (1986) suggest that there can be a 15% reduction in the bone mass. The spongy bone of the vertebrae can be affected, often visible in post-menopausal females with osteoporosis and spine curvature.





The male comparative to the female menopause is the andropause and this refers to the hormonal changes that occur with age (Knight and Nigam 2017). Tortora and Derrickson (2011) suggest that decline in reproductive function starts at around 55, but Matsumoto (2002) indicates the serum testosterone falls as men enter their 30's, with a reduction of 1-1.4% every year. The cause can be seen as both reduced synthesis of testosterone alongside a reduction in free testosterone in the blood.

The affects of testosterone changes can be varied having both psychological and physiological impact. Jakiel et al. (2015) list increased body fat, reduced muscle and bone mass, changes to mood including sadness and irritability, cognitive changes to memory as well as lethargy and a reduction in endurance. Kaufman et al. (2018), however, suggest that, although there is some evidence, depression and cognitive decline cannot be categorically linked to changing androgen levels. Nevertheless, they do stress the role that oestrogen has as a male hormone suggesting that, as with females, it is important in maintaining bone health and the preservation of skeletal integrity. Vanderschueren et al. (2014) highlight the increased bone loss, density and increased risk of fracture.

As well as testosterone and the related oestrogen, other elements such as sex hormone-binding globulin (SHBG) contribute to the picture. It is clear that SHBG increases with age and there is an associated reduction in free testosterone, but the effect on overall health is unclear. Kaufman et al. (2018) indicate a modest correlation between cardiovascular problems and hormonal changes but stress that it is difficult to differentiate between cause and effect in terms of comorbidities and the onset of the andropause.

For both genders, there is also questions raised about the effect of oestrogen on the soft tissue. LeBlanc et al. (2017) suggest it is under-researched and that mechanisms and impact are still not clear. However, there does appear to be some links between changing levels of oestrogen and changes to stiffness, collagen content and joint laxity (LeBlanc et al. 2017, Chidi-Ogbolu and Baar 2019). The alterations may have implications for risk of injury and stability of different joints.

## CONCLUSION

This second paper has started to demonstrate the complexity of human aging and how it affects all areas of the human body. By considering each of the systems in turn, it can be seen how they are interconnected and how a seemingly discrete and stand-alone organ system impacts other functions in other systems. The four remaining systems from Figure 2 will be examined in the next journal issue.

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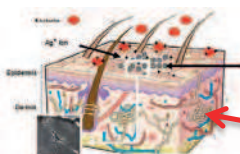
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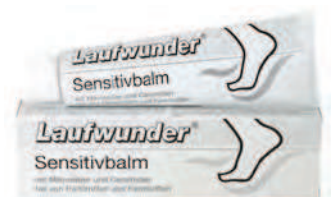
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# Workshops

## Workshop Format

Many of our workshops can now be attended either virtually via Zoom or in-house, the choice is yours! When booking a place you simply need to let us know your preference of in-house or virtual and you will be booked on accordingly.

*\* The hands-on workshops can only be attended in-house.*



virtual (zoom)  
and in-house



in-house  
only

## Medical Emergency Procedures Courses



**Saturday 29 January 2022**

**Saturday 12 February 2022**

**Sunday 13 February 2022**

**Sunday 6 March 2022**

In keeping with safety in Foot Health practice, it is essential that every clinician undertakes medical emergency training every 3 years. To help facilitate this, the Institute runs an in-house bespoke training day to fulfil this requirement.

The day is fun, informative and relevant to the clinical situation. It is also a great opportunity to network with like minded professionals.

### The Medical Emergency Procedures day covers amongst other things:

- Carrying out emergency procedures single handed including basic life support / CPR
- Principles of recognition of collapse, diagnosis, treatment and referral
- Coping with medical emergencies including the unconscious patient and respiratory and circulatory disorders
- A basic overview of minor injuries

**Cost: £110.00**

(A certificate is provided upon satisfactory completion)



## Biomechanics Level 1

### A Beginners Guide

**19th & 20th January 2022**

**18th & 19th May 2022**

10.00am - 4.30pm

Lecturer: Andrew Hill

A 2 day introduction into the world of biomechanics including functional lower limb anatomy, common biomechanical foot complaints and how to manage them, pedorthic examination, and comprehensive assessment of the foot & ankle. Run as a Step-by-Step hands on workshop aimed at practitioners wishing to add another lucrative dimension to their clinical skills.

**Cost: £289.00**

## Biomechanics Level 2

### A Focus on Pathology

**23rd & 24th March 2022**

**20th & 21st July 2022**

10.00am - 4.30pm

Lecturer: Andrew Hill

A 2 day hands on workshop focused on further exploration of lower limb anatomy, biomechanics and pathomechanics including assessment of the knee and hip, leg length discrepancy, static and dynamic weight bearing examination and concepts of human motion.

**NB:** Successful completion of biomechanics Level 1 is a prerequisite for this course.

**Cost: £289.00**

## Biomechanics Level 3

### Therapeutic interventions & Prescription writing

**20th & 21st April 2022**

**14th & 15th September 2022**

10.00am - 4.30pm

Lecturer: Andrew Hill

A 2 day hands on workshop focused on consolidating patient centred assessments of the foot, ankle, knees and hips, as well as comprehensive gait analysis. It includes interpretation of all findings in the context of insole and orthotic prescription writing; including how to take templates or casts, and how to correct any identified pathomechanics of the lower extremities. On completion, the practitioner will have the knowledge and skill to confidently incorporate biomechanics into their practice.

**NB:** Successful completion of biomechanics Levels 1 & 2 are a prerequisite for this course.

**Cost: £289.00**





## Neurological & Vascular Assessment

6th January 2022

10.00am - 4.30pm

Lecturer: Andrew Hill



MEMBERS  
FAVOURITE

Neurological and Vascular assessments form a fundamental part of good practice and offer an invaluable screening tool for practitioners, patients and whoever the patient is referred onto depending on their results. This workshop looks to discuss both of these body systems in detail with a view on how and why they go wrong as well as what observable signs and symptoms may present to practitioner. This will be further enhanced by an in-depth discussion about the assessments we can conduct as practitioners and how to document any findings.

Cost: £56.00



MEMBERS  
FAVOURITE



## What is the best way to deal with Onychocryptosis?

13th January 2022 **Fully Booked**

1st September 2022

10.00am - 4.30pm

Lecturer: Andrew Hill

This workshop provides a more in-depth look into ingrowing toenails. It will provide confidence to identify different presentations of Onychocryptosis as well as give practical experience in treating the condition. The course will outline conventional treatments as well as alternative ones (such as scalpel and beaver blade use). Referral pathways and surgical interventions will also be explored. The practical session will be practiced on prosthetic toes.

Cost: £56.00

## 'If it is wet, dry it... if it is dry, wet it'



A Dermatology Update

25th January 2022

10.00am - 4.30pm

Lecturer: Belinda Longhurst

MEMBERS  
FAVOURITE

This presentation is refresher on the role and function of our largest organ: the skin. We examine cause, manifestation and evidence-based treatments of common – and not so common – skin conditions we encounter in practice. From anhidrosis to worrying rashes, we explore the important role of the practitioner in helping patients control and prevent dermatological complaints of the foot.

Cost: £56.00

## What can go wrong in Diabetes?



1st February 2022

10.00am - 4.30pm

Lecturer: Andrew Hill

Diabetes continues to affect more and more of the population. Improved diagnostic skills and treatment breakthroughs are encouraging. However, the condition remains a serious one and patients and practitioners alike need to be focused and dedicated in minimizing the impact on the patient's health. In this workshop we will be looking at the pathophysiology of diabetes and its associated complications such as neuropathy, ischaemia and infection.

We will also be looking at development of ulcers, osteomyelitis and biomechanical problems occurring as a result of diabetes. The workshop will also address screening the high risk foot, patient education, treatment options, and referral pathways as well as how this affects your practice.

Cost: £56.00

## Sports Injuries



Foot Problems in the Athletic Patient

8th February 2022

10.00am - 4.30pm

Lecturer: Andrew Hill

This workshop deals with the most common occurring sporting injuries and encompasses the activity induced injuries that occur in the lower extremity. It aims to incorporate the different sports induced pathologies that occur and diagnostic examinations which will aid the practitioner in their practice. In conjunction with the course, it also prepares the practitioner to understand what short and long term management plans for the patient consist of.

Cost: £56.00

# How Good Is Your Clinical Practice?



**1st March 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

This workshop will focus on the important legal issues surrounding your practice, ensuring that you are protecting yourself as well as your patients.

## In this workshop we will look at:

- Issue of consent: Just who is able to give informed consent?
- Record keeping: Data protection responsibilities and legal implications of poor record keeping
- Review of the SOAP note format
- Assessment protocols and referral pathways / responsibilities
- Infection Control Practices: Disinfection procedures; waste disposal; health and safety; sterilization etc

All of these key areas will be looked at in both the context of clinic-based and domestic-based practice.

**Cost: £56.00**

# Gait Analysis



**A Step-by-Step Approach**

**29th March 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

What is Gait Analysis? What can it tell us? What do different walks mean potentially to me as a clinician? How do commonly occurring pathologies impact on gait? How can I undertake gait analysis on my patient? Gait analysis is a great tool to use to identify potential underlying pathomechanics and the smallest of interventions can prevent pain and improve quality of life. Come for a fun filled day and learn the basics within a small and friendly group of colleagues. What does your gait say about you?

**Cost: £56.00**



# Padding and Taping



**MEMBERS  
FAVOURITE**

**Alleviate Pain in Minutes**

**16th March 2022 Limited Places**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

Would you like a hands-on practical workshop learning how to alleviate your patient's pain in just 5 minutes, but are worried about delving into biomechanics?

Padding and Taping can offer fantastic results for short and medium term pain relief and is the basis of lower limb biomechanics.

The following padding and tapings are taught:

## Padding

- Plantar cover
- 'U' and winged plantar cover

- Plantar metatarsal pad
- Crescent pad
- Horseshoe pad
- Oval pad
- Shaft pad including extended shaft pad

## Taping

- Low dye
- High dye (ankle instability)
- Plantar fascial
- Posterior tibial tendonitis
- Achilles tendonosis
- Ray stabilisation

**Cost: £56.00**



**MEMBERS  
FAVOURITE**

# Simple Insoles



**6th April 2022 Limited Places**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

Would you like to be able to increase your scope of practice and revenue?

Wish you could make a simple insole for your patients and offer something more permanent than padding alone?

Now is your chance to learn how to make simple insoles for your patients in a fun and supportive environment. This one-day CPD Workshop will focus on how to make insoles for your patients, including which materials to use, and techniques for measuring, making and fitting them for your patients whilst they wait. All materials are included when on the Workshop and attendees will get to take the designed insoles home.

**Cost: £75.00**

## An age-old problem: The Podo-geriatric Foot



**14th April 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

As the population continues to age, there is ever more demand for healthcare services. As healthcare professionals look to provide the best care possible for people as they get older, foot care is an area that will continue to see huge demand. The aging foot provides often unique challenges and pathologies that are not seen in other demographics whilst still suffering from ailments that affect feet of any age. This workshop looks to assess the considerations of treatment in the geriatric foot and will be of benefit to practitioners irrespective of clinical experience.

**Cost: £56.00**

## Fungal Infection of the Skin and Nails – can you recognise it?

**MEMBERS  
FAVOURITE**



**3rd May 2022**

**10.00am - 4.30pm**

**Lecturer: Belinda Longhurst**

This presentation identifies which organisms are responsible for both tinea pedis and onychomycosis and how to take appropriate tissue samples for microscopy and culture, as well as clinical testing for dermatophytosis. We examine the evidence base for treatments and discuss patient and species specific treatment plans for what is the most common skin condition of the foot.

**Cost: £56.00**

## Dementia – How best to manage this identity thief?



**10th May 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

**MEMBERS  
FAVOURITE**

Dementia is an ever-increasing mental health condition that requires all manner of specialist care and attention. As a practitioner having to provide foot treatment to somebody with dementia there can be a whole host of scenarios and situations in which you feel underprepared. This workshop is designed to explore dementia to help the practitioner gather an understanding of the condition as well as discussion and focus on how to manage potentially troublesome situations.

**Cost: £56.00**



## Referral Pathways – when to involve the GP or the Multi-disciplinary team



**24th May 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

All practitioners encounter patients that they need to refer on, but there isn't an exact science to determine who and when the referral should be made. This workshop looks to explore both acute and sub-acute clinical situations in which referral may or may not be necessary and looks into the most appropriate course of action a practitioner should take in such situations which aims to clear up elements of doubt or confusion.

**Cost: £56.00**



## What is so important about my Patients' medication?



**7th June 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

A vast majority of patients who come to have their feet treated by a professional will be on some form of medication. As medicines work by inducing chemical reactions in the body, it is no surprise that there are many side effects associated with a patient's medication. These side effects can be responsible for a lot of pathologies in patients and their feet, as well as masking other underlying problems.

It is the aim of this workshop to provide a basic overview into the most common medicines being taken by patients and the reason why they are taking them. The workshop aims to outline the side effects of these medications and how they implicate podiatric practices.

**Cost: £56.00**

## Skin and nail recognition conditions – an introduction to dermoscopy



**17th June 2022**

**10.00am - 4.30pm**

**Lecturer: Belinda Longhurst**

A day of improving dermatological assessments and lesion recognition skills via history taking, visual clues and further investigations to improve patient outcomes. The day includes an introduction to using a dermatoscope in clinical practice and formulating appropriate referral pathways for suspicious lesions.

**Cost: £56.00**

## What makes a foot 'High Risk'?

**5th July 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

Many conditions commonly encountered in the population render the foot 'high risk'. This particular focus is often centred on the development and management of chronic wounds that can and do occur in the foot.

This workshop will identify and look at the various conditions that mark the foot as being 'high risk' and will look at the development of chronic wounds in these conditions. There will also be an exploration of the various treatment modalities currently advocated for wound management. The relevance to private practice will also be discussed.

**Cost: £56.00**



## How does Parkinson's affect the patient and their feet?



**19th July 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

Parkinsonism is a common condition found in the older population. Whilst it is not a disease that primarily attacks the feet, the neurological nature of the condition can certainly impact upon the feet and compound the debilitating nature of the later stages of the condition. This workshop looks holistically at Parkinsonism and considers the pedal impact for both the patient and the practitioner.

**Cost: £56.00**



**MEMBERS FAVOURITE**

## Verrucae & Tumours



**Recognition and Management**

**9th August 2022**

**10.00am - 4.30pm**

**Lecturer: Belinda Longhurst**

This presentation is a refresher on the aetiology of verrucae and other benign, pre-malignant and malignant tumours we encounter in practice. We examine the evidence base of treatments and discuss practitioner assessments along with timesensitive referral pathways for those which require further investigation.

**Cost: £56.00**

## Fostering Improvements in Patient Health Behaviour



**12th August 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

This workshop is aimed at Podiatrists and FHPs who spend time (or need to spend time) encouraging patients to consider behaviour change as a means to manage their condition(s) more optimally. Whilst this is a growing 'ask' of all health professionals to help encourage healthy and positive behaviours in patients, it is not something that they are collectively trained to do in any meaningful way. Accordingly, there is often a communication breakdown that ensues from this (well intentioned) attempt to influence a patients behaviour. This workshop is designed to help you start addressing communication in the context of promoting behaviour change in patients. It will introduce concepts related to reasons underpinning patient decision-making; ambivalence; your role as a communicator and tie all of this together in the context of motivational interviewing as a technique to improve this aspect of growing importance in clinical practice.

**Cost: £56.00**



## Podopaediatrics

How would you deal with a Child's Foot Problem?



**31st August 2022**

10.00am - 4.30pm

Lecturer: Andrew Hill

The child foot encounters large amounts of change as it grows and adapts to the environment. During these formative years, the foot can be at its most vulnerable as it is having to take the load of the whole body as well as changing its shape and size. Therefore any extra stresses or pressures can have long-term and potentially serious effects.

The field of Podopaediatrics is one that explores the natural development of the foot as well as any pathological conditions that are commonly found in children's feet. Podopaediatrics is a specialist area as the child foot and the adult foot are vastly different, and so treatment options for adult's feet are not always directly transferable into the child foot. This workshop is designed to help you in practice to identify foot pathologies in children, and undertake appropriate treatment regimes for them.

**Cost: £56.00**



## What is that persistent pain in the ball of the foot?



Exploring Metatarsalgia

**8th September 2022**

10.00am - 4.30pm

Lecturer: Andrew Hill

An umbrella term used to describe generalised forefoot pain. Whilst extremely common, the causes of Metatarsalgia are extremely varied and correctly diagnosing the cause is half of the battle when looking to relieve the pain. This workshop comprehensively covers each established cause of Metatarsalgia and discusses diagnosis and management of each of them. Ideal for practitioners new and experienced alike!

**Cost: £56.00**



## What Type Of Joint Problem Does Your Patient Have?



**27th September 2022**

10.00am - 4.30pm

Lecturer: Andrew Hill

The arthritides cause sufferers chronic pain and make daily tasks difficult. This workshop looks at these conditions, and how we as practitioners can provide relief to the pain that these conditions can cause the feet.

**We will look at:**

### Rheumatoid Arthritis

- RA and pathogenesis / epidemiology
- Process of synovial inflammation and progression to erosive arthritis
- Treatment / general principles / flowchart including DMARDS

- Particular problems of RA with respect to ulceration, vascular disease and infection
- Deformities and biomechanical problems associated with RA

### Other Rheumatological / Inflammatory Problems and other arthritides

- Other forms of arthritis and its management
- Metatarsalgia in more detail and its various causes (other than RA)
- Ankle and mid-tarsal problems
- Achilles tendonitis and Bursitis
- General advice with respect to exercise
- Patient advice and information sheets, useful sources e.g. ARC

**Cost: £56.00**

## Heel Pain – is it just another case of Plantar Fasciitis?



**6th October 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

Heel pain is an all too common complaint for a number of people with terms like 'Policeman's heel' and 'heel spurs' being widely used by the general public. In more recent years, a greater public awareness of 'Plantar Fasciitis' has emerged meaning that not only are patients self-diagnosing (often erroneously) but also a great many practitioners are too quick to assume that any heel pain is plantar fasciitis. This workshop looks into what is occurring in the heel anatomically and how these structures can lead to pain development when they become injured or malfunction. It is hoped that this can lead to more accurate diagnosis and treatment regimes accordingly.

**Cost: £56.00**



## Are you promoting evidence-based practice?



**3rd November 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

This workshop will look at the importance of evidenced-based practice and how this feeds into rationale and decision making in a clinical context. It will also consider the effect of dangerous claims and look at treatment myths that can have bad outcomes for you and your patients.

**Cost: £56.00**



## Tropical Diseases of the Foot



**1st December 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

Given that in today's society people can travel the world quickly and relatively easily – it is plausible that foot conditions of a curious origin could well be encountered within the UK. It also takes an interesting look at how our podiatric colleagues in different parts of the world face different challenges that we do in Western Europe.

This workshop will look at the various foot conditions that can be encountered that do not have a common domestic cause. Many conditions will be explored in how virulent bacterial strains can cause all manner of serious foot problems.

**Cost: £56.00**

## The Sharp End of the Job



**Scalpel Debridement & Enucleation Technique**

**19th October 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

In this workshop we will be looking at the anatomy of the skin, epidermal and dermal tissue, and its relation to the development of callus and of various heloma formations.

This workshop will present how to assess and treat callus and helomas, focusing on scalpel debridement and introducing an effective method for heloma enucleation using the scalpel 15T blade. The morning session will be based on theory, with the afternoon being a practical session on scalpel debridement with heloma enucleation on artificial corns.

**Cost: £56.00**

## Common Foot Conditions



**Things that you cannot afford not to know about**

**15th November 2022**

**10.00am - 4.30pm**

**Lecturer: Debbie Rockell**

This workshop provides the practitioner with the general conditions that present at their practice. The conditions that will be discussed will range from various basic dermatology conditions, neurological conditions, vascular conditions and musculoskeletal disorders. It is a great refresher course and can direct the practitioner into desired fields.

**Cost: £56.00**

## How Would You Look After A Patient With Chronic Pain?



**13th December 2022**

**10.00am - 4.30pm**

**Lecturer: Andrew Hill**

This workshop is designed to explore the concept of chronic pain and its management. A variety of chronic pain conditions will be discussed and differences between the types of pain will be explored.

This session will look at not only the pharmacological and alternative methods of pain relief, but also how this impacts your patient and your treatments for these patients.

**Cost: £56.00**

# Study from home



**ONLINE  
COURSES**

## CPD@home

**(Online only)**

- Infection Control
- Padding and Taping
- Dermatology
- Rheumatology
- Biomechanics
- Podopaediatrics

**Cost: £45 each**

VISIT [WWW.SMAECPD.COM](http://WWW.SMAECPD.COM)

FOR MORE DETAILS ABOUT OUR CPD@HOME RANGE

## Fostering improvements in patient health behaviour

**(Online only)**

With a changing landscape of public health comes a change in the way that healthcare is delivered and received. In more recent years, healthcare professional across a wide number of disciplines have been moving away from a more traditional, didactic view of the patient-practitioner relationship towards notions of concordance and equity of decision making between both parties.

This change of direction, whilst far from complete, has re-defined the way in which healthcare professionals might best deliver their care within the context of facilitating behaviour change in patients and changing the mind-set away from considering a patient as 'adherent' / 'non-adherent' or 'compliant' / 'non-compliant'. This is particularly true in the delivery of healthcare for patients with more chronic health conditions in which altered lifestyle and amended behaviours are a cornerstone of disease management. As perspectives on healthcare delivery change, the emergence of different approaches towards delivering care to the patient is a logical consequence.

This CPD aims to explore patient-practitioner relationships and how we can improve our consultation skills to best help patients to make beneficial decisions about their health and to foster any change in behaviour for the longer term.

**Cost: £45.00**

## The On-Going Challenge of Ulcer and Wound Management

**(Online only)**

Ulcers and wounds are a large problem facing many individuals who are 'at risk'. Identifying the risk factors can certainly help to reduce the incidence and impact of these debilitating lesions. This CPD looks to address what a practitioner should do when encountering a wound or ulcer and help to alleviate the apprehension and fear that a practitioner may otherwise face by arming them with information and guidance.

**This CPD covers:**

- Structure and function of the skin
- Concept and issues of tissue viability
- The 'high-risk' patient
- Prevention of wound development and complications
- General considerations for treating high-risk patients
- Examining the wound
- Identifying and treating infection
- Osteomyelitis
- Treating the wound
- Dressings
- Other aspects of wound management
- Conclusions

**Cost: £45.00**

## Tackling the Nerves

**(Online only)**

The nerves are a crucial part of our anatomy and neurological disorders in the lower extremity result from disease processes that involve sensory, motor and autonomic nervous systems. This can follow a metabolic or hereditary process or indeed an injury or trauma which can create progressive or static deformity and be treatable or incurable. Any process which impacts on the delicate nervous tissue and its ability to process electrical signals can create significant issues within the body, not least the lower limb. This CPD looks to assess the nervous system and tackle nervous system pathologies to help practitioners in their management of patients with neurological disorders.

**Cost: £45.00**

# Anatomy, Cell Biology and Physiology Series

## The Endocrine System

(Online only)

The endocrine system is made up of a network of glands. These glands secrete hormones to regulate many bodily functions, including growth and metabolism. Endocrine diseases are common and usually occur when glands produce an incorrect amount of hormones or when the hormones cease to work effectively. Thus, when these diseases occur many –if not all– body systems can be adversely affected leading to many life-altering, and possibly life threatening, outcomes. This CPD seeks to explore the main principles and anatomy and physiology of the endocrine system with a focus on pathology and management of endocrine disorders.

**Cost: £45.00**

## The Cardiovascular System

(Online only)

Anatomy, cell biology and physiology are key and underpinning subject areas for all health disciplines. Understanding the way that the body works on both the micro- and macro scale allows us not only understand normal physiological function, but also to understand pathology of various body systems and how medicinal approaches can remedy these pathologies. Within this series of CPD subjects, this one in particular focuses on the Cardiovascular System.

**Cost: £45.00**

## The Respiratory System

(Online only)

The respiratory system contributes to homeostasis by facilitating the exchange of gases – oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) – between the atmospheric air, blood and tissue cells. It also plays a role in adjusting the pH of body fluids. Oxygen is the single most important substance that our body requires. Without it death would occur in minutes. Therefore, the importance of the respiratory system is evident and when it doesn't work properly there are serious health implications. This CPD covers the anatomy and physiology of the respiratory system to provide context to help explain and understand respiratory conditions and how they affect the whole body.

**Cost: £45.00**

## What is that pain in the foot my patient is complaining of?

(Online only)

Pain across the metatarsal region of the foot is very common, yet pinning down exactly what is causing it can be tricky. The term 'metatarsalgia' is used to describe such pain but this term only describes the symptoms – pain in the metatarsal region of the foot. This CPD looks to explore this area of the foot both anatomically as well as pathologically and covers the various conditions that can give rise to pain in the ball of the foot. This CPD is ideal for new and experienced practitioners alike and will help support and direct clinical assessments and treatments of this all too common problem.

**Cost: £45.00**

## Can you avert a potential disaster?

**Managing the foot in Diabetes**

(Online only)

With diabetes mellitus consuming 10% of the entire NHS budget for England and Wales and a significant portion of that amount (some £300m) being spent on managing avoidable foot-related complications, there is a considerable focus on developing tools and strategies to minimise both the individual and financial cost of this devastating disease. The role, therefore, that podiatrists and foot health professionals play in the reduction of morbidity and mortality of the disease as well as improving patients' quality of life cannot be overstated. Against this backdrop this CPD will discuss diabetes mellitus from pathophysiology through to complications and implications for practitioners.

**Cost: £45.00**



## Treating the Persistent Verruca CPD

(Online only)

This CPD tackles the area of patient Verrucas are one of the most common conditions treated by podiatrists and FHPs. Sometimes they resolve quickly and very often spontaneously. However, there is a large number that take many months (if not years) to resolve. These lesions are what are termed 'persistent verrucas' and successful treatment of them can be elusive.

This CPD explores this condition from pathophysiology of the condition through to the treatment modalities available to the patient. This serves as a useful guide to practitioners looking to keep up to date with treatment options (standard and contemporary) as well as providing theoretical interest for those looking to broaden their understanding of this common condition.

**Areas covered include:**

- Overview and Background of Verruca Pedis
- Types of Verruca
- Structure and function of skin
- Clinical Features
- Treatment options:
  - Sharp debridement + occlusion
  - Caustic treatment
  - 'Natural remedies'
  - Cryotherapy
  - Laser Treatment
  - Bleomycin
  - 'Needling'
  - Surgical intervention
- Patient suitability and prognosis

**Cost: £45.00**





## Tropical Diseases of the Foot

(Online only)

This CPD looks to introduce various pathologies that have traditionally been encountered in foot health and Podiatry clinics within tropical climates. It is the responsibility of the modern and competent practitioner to identify certain tropical diseases of the foot and at least have a rudimentary understanding of them and their treatments given that more round the world travel is ever more common meaning that more and more of these conditions are being seen more frequently in temperate climates – certainly including the UK.

**Cost: £45.00**



## Common Conditions Affecting The Elderly

(Online only)

Elderly patients make up a very large proportion of our clients. It is also this demographic of patients who tend to have more underlying pathologies and chronic foot problems. The elderly foot, therefore, can present in many different ways and provide a complex set of challenges. This CPD will discuss the symptoms and treatments of various pathologies that are commonly seen in the elderly foot.

### Conditions that will be discussed include:

- Arthritis
- Parkinson's Disease
- Peripheral Vascular Disease
- Peripheral Neuropathy
- Common Biomechanical pathologies in the elderly foot
- And many, many more

**Cost: £45.00**

## Is It Fungal Or Isn't It?

**A guide to this most common of Skin and Nail Pathologies**

(Online only)

The presentation of a fungal infection in the skin and / or nails is often considered easily distinguishable – however, as this CPD will explore, that is often far from the case with many fungal infections incorrectly labelled as being something else entirely, or a fungal infection going undiagnosed for long periods of time. This certainly can render treatments ineffective, which makes the already tricky task of effective treatment all the more complicated.

### This CPD looks to cover all this and more:

- Structure and function of the skin
- Structure and function of the nails
- Types of fungal infection
- Fungal infection of the skin
- Fungal infection of the nails
- Prognosis and future considerations

**Cost: £45.00**



## Are you performing vascular assessments properly?

(Online only)

Vascular assessments are a crucial part of the patient appointment, but are significantly devalued if they are not being done regularly or correctly. The aim of this CPD program is to improve the diagnostic skills of practitioners in their assessment of the vascular system.

By applying more evidence-based actions to their clinical practice, the benefits to patients are significant. This is a must-do CPD for practitioners to ensure that they are providing excellent care for their patients.

**Cost: £45.00**



## Commonly Used Medications And Their Side Effects

(Online only)

The aim of this CPD is to educate the practitioner in the effects, both adverse and otherwise, of common medicinal interventions for equally common conditions. This CPD will go on to explore how these effects will influence the symptoms of your patients' foot problems as well as the treatments that can be offered.

**Cost: £45.00**

## Are you a Modern Practitioner?

**The Growing Need for Health Promotion & Patient Education**

(Online only)

This CPD tackles the area of patient education and health promotion. It is easy for health professionals to slip into an isolated view of themselves in the context of their patients' overall health and the role that they may play in improving that.

Certainly within the context of many widespread and serious health conditions such as diabetes mellitus, concepts of 'patient empowerment' and patient-led management is a recent paradigm shift. As such, modern day Podiatrists and FHPs need to take a significant role in the multidisciplinary approach to healthcare. The CPD looks to discuss this theory and provide some useful and insightful guidance on this growing and changing landscape.

**Cost: £45.00**

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# Classifieds

For Sale, Wanted and Services

## Professionals Wanted

### FHP wanted

In Stroud Glos. Fully equipped clinic, Patient booking and managing Self employed basis. One day a week initially.

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# Members' Zone

We love to hear from our Members and are excited to include this new Members' Zone within the Journal where we shall publish case studies, articles or personal reflections.

If you would like to submit something for publication, please send this to Carol O'Brien at [CObrien@smaeinstitute.co.uk](mailto:CObrien@smaeinstitute.co.uk)

*The SMAE Institute reserves the right to edit or individual submissions as and when considered necessary. Opinions expressed are those of the individual author, and do not necessarily reflect the opinion of The SMAE Institute.*



**John Pearson**  
MBChA MSSCh

## Microscopes and Feet

**An unlikely combination? Microscopy is a fascinating insight into a hidden world. With a basic instrument, the invisible can be seen in amazing detail.**

In the past, microscopy was the only way to identify fungal structures on skin, nail and hair samples. Today other, more sophisticated (and costly), methods are available, yet the initial three step 'gold standard' method is still in use by clinicians. This comprises:

- microscopic examination of a 'raw' specimen to locate fungal elements,
- culture of the specimen on agar to allow the colour and structure of growth to be observed, together with sensitivity to antifungal treatment,
- microscopic examination of a cultured specimen – the 'pure' specimen morphology provides a definitive diagnosis of the causative organism.

The above sequence should only be executed by qualified clinicians in specialist laboratories, (Glyn, Evans, Richardson, 1989).

There is a five minute fungus test available to podiatrists/ chiropodists and FHPs, made by Diafactory. This is a 'dip-stick' test that relies on immunochromatography assay that can detect 90 percent of fungi of which 99 percent of dermatophytes can be identified and is claimed by the manufacturer to be 97 percent accurate. This test is available from most podiatry equipment suppliers.

All fungi share basic reproductive and morphological similarities. The various stages of growth and development can often be seen microscopically. One structure that can be easily identified are the 'branch-like' tubular extensions that enable the organism to populate new territory. Most of us have seen food that has been affected by fungal growth. Fine hair-like filaments that spread from a central point can be clearly seen by the naked eye – these are hyphae. Dermatophytes – those fungi that have a predilection for skin, nail and hair – feed on the keratin found in such tissues. Hyphae are minute, although not as small as bacteria. A typical hypha size ranges between 2 – 12  $\mu\text{m}$ .

Different fungal species produce specific hyphae morphologies. For example, the hyphae walls range from thick to thin, rigid to flexible, smooth to irregular. Most hyphae have a transverse membrane – septa – that can be located at either regular or haphazard intervals. Finally, hyphae are programmed to branch out. Angles of branching can vary. All of these morphologies provide evidence as to which organism is being observed, (Read, 2018).

Occasionally, spores can also be seen microscopically. These show as smaller, spherical, ovoid cells – microconidia – or larger, segmented cells – macroconidia. Usually these are only seen in 'pure' cultured specimens. That being said, fungi are fiendish. They often develop into either yeasts or moulds but also have the capacity to change their morphology depending on growth conditions. The presence of antifungal treatments can also cause changes in morphology, so aiding



the organism's survival. Hyphae growth (which is relatively fragile) can be abundant in the right conditions but if non-favourable conditions predominate, the fungi can change to produce more robust spores. To a certain extent this can create a 'moving target' when trying to identify the correct treatment. In deep-seated infections – found in immunocompromised patients – there are rapid laboratory techniques that can identify the causative organism in order that target treatment can commence urgently, (Odds, 2018).

The examination of skin, nail and hair requires a microscope that has a relatively low magnification. Objective lenses of x10 and x40, together with an eye-piece of x10 are sufficient. This allows magnification of x100 and x400 respectively. Below stage illumination with a diaphragm to control the amount of light is also necessary. Low-light is essential, otherwise fungal organisms remain invisible due to the fact that they are translucent. In pure specimens a stain, lactophenol blue, can be used to demonstrate the presence of fungal structures.

Generally only hyphae can be identified in 'raw' specimens but care has to be taken to disregard various inclusions or contaminants. Such structures as strands of wool, oil droplets or even connective tissue that mimic hyphae, need to be eliminated from the view observed.

The collection and storage of specimens is an important factor to prevent artefacts and allow a laboratory to make an accurate diagnosis. In the case of skin, a scraping with a blunt, sterile scalpel or glass microscope slide is taken from the most distal area of suspected lesion. Nails require a sample to be taken from the most proximal area of fungal growth. Often tissue extracted subungually provides a rich source of infected material. Superficial onychomycosis can be collected by scraping, (Glyn, Evans, Richardson, 1989). These samples are placed in a sterile universal container or in folded black, stiff paper and labelled for the laboratory.

The common dermatophytes found in human pathology fall into the following groups:

Epidermophyton	Specific to humans
Trichophyton	Found on humans and other animals, including hedgehogs, cattle, sheep, goats and rodents
Microsporum	Found on humans, cats, dogs, voles and in soil (Howell, 2018)

There are other, less common, organisms that can infect skin and nails, although these fungi are becoming more commonplace. The identification of these organisms requires the skill of a qualified clinician.

One of the problems with microscopic examination of fungal elements is whether the image seen is of a live or dead specimen. This can only be confirmed by the triple 'gold standard' method of microscopy and culture. By allowing the organism to grow, it can be seen whether hyphae are branching or spores are germinating, both of which can be examined to confirm morphology and establish the species of fungus present. Even so, inconsistencies may still be encountered.

In some cases of fungal infection, especially of onychomycosis, a clinical examination may show overt signs of fungal activity but subsequent culture does not develop any growth, (Glyn, Evans, Richardson, 1989). It has been estimated that this occurs in 40 percent of cases. Also, it has been suggested that humans carry a certain amount of 'live' fungi on their skin as commensals and it is possible for these organisms to show during investigation. However, the human body is able to limit the proliferation of fungal activity with the presence of fatty acids, host defence peptides and macrophages in and on the skin, (Dambuza, 2018).

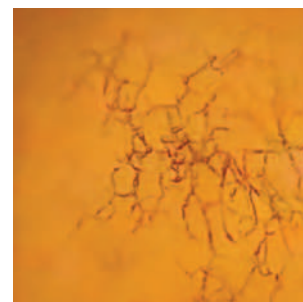
It is worth noting that although there are many treatments for fungal infections, fungi are developing resistance to antifungal medications. This has largely been brought about by the overprescribing of medication and exacerbated by the antifungal pesticides used in farming. Many dermatophytes thrive in soil or live on decaying matter and mutated organisms can easily be transferred to a human host, (Johnson, 2018).

Microscopes and feet – an unlikely combination? As can be seen, microscopy and other diagnostic techniques can be an invaluable method of examination but should be undertaken by a qualified clinician under laboratory conditions.

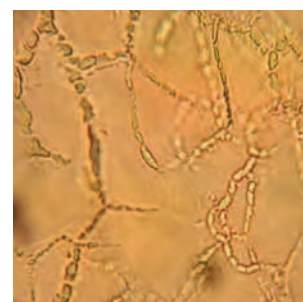
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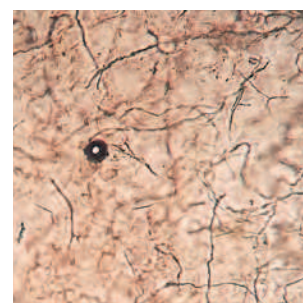
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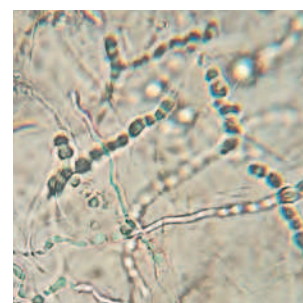
*Hyphae Cluster x 100 Tinea Pedis*



*Hyphae Cluster x 400 Tinea Pedis*



*Straight Hyphae x 100 Onychomycosis*



*Straight Hyphae x 400 Onychomycosis*

# British Chiropody & Podiatry Association

## The British Association of Foot Health Professionals

### REGIONAL BRANCHES & CONTACT DETAILS



#### Hon. President

**Michael J. Batt**

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#### Chairman of BCPA / BAFHP

**Deborah Mercer FSSCh MBChA**

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120 Bull Lane, Rayleigh, Essex SS6 8NQ



#### East Anglia Branch

**Chairman: Alex Hepburn**

alexhepburn30@hotmail.com

**Treasurer: Deborah Hart**

deborahhartuk@yahoo.com

Venue: Honington and Sapiston Village Hall,  
Bardwell Road, Sapiston, Bury St Edmunds,  
Suffolk, IP31 1RU | 9am – 1:30pm



#### East Midlands Branch

**Chairman: Ruth Cranmer**

ruth.cranmer@feetaid.co.uk

**Secretary: Julie Astill**

thefootings@gmail.com

Venue: The Cedars Hotel & Restaurant,  
Cedar Road, Loughborough.  
LE11 2AB | 10am – 1pm



#### Essex & East London Branch

**Chairman: Deborah Mercer FSSCh MBChA**

deborah.mercer2@btinternet.com

**Secretary: Anna Mapp**

anna.mapp773@gmail.com

Venue: Bulphan Village Hall, Church Road,  
Bulphan, Upminster, Essex RM14 3RU  
1:30pm – 4:30pm



#### Kent Branch

**Chairman: Emma Thorpe**

emmathorpefoothealth@gmail.com

**Secretary: Heather Callaghan**

heathercallaghan66@gmail.com

Venue: Davis Estate Community Centre,  
Barberry Avenue, Chatham, Kent ME5 9TE  
9am – 12noon



#### North West Branch

**Chairman: Christopher Hunter**

Christophe0@aol.com

**Secretary: John Gobin**

Jgobin@hotmail.com

**Minutes Secretary: Angela Fenton**

angela\_fenton@hotmail.co.uk

Venue: Ormskirk Civic Hall, Southport Road,  
Ormskirk L39 1LN  
10am – 2pm



#### Scottish Branch

**Chairman: Lorna Stronach**

lornastronach999@gmail.com

**Secretary: Fiona Morgan**

fiona.morgan22@btinternet.com

Venue: Diocese of Dunkeld,  
24-28 Lawside Road, Dundee DD3 6XY  
1pm – 3pm



#### South East Branch

**Chairman: Clare Dicker**

clare\_dicker@hotmail.co.uk

**Secretary: Vacant****Treasurer: Kate Alexander**

kate.alexander1@hotmail.co.uk

Temporary venue: The Crowne Plaza Felbridge  
Hotel, London Road, East Grinstead. RH19 2BH  
9am – 4pm



## South West Branch

**Chairman: Jayne Chudley**  
jaynechudley1@gmail.com

**Secretary: Katharine Hardisty**  
katharinehardisty@yahoo.co.uk

Venue: St. Cuthbert's Conference Centre,  
Buckfast Abbey, Northwood Lane,  
Buckfast, Devon TQ11 0EG  
9am – 5pm

## Thames Valley Branch

It is with sadness that the Thames Valley Branch has closed due to no-one coming forward to take on the positions of Chairman and Secretary. Sue restarted the branch in January 2015 and has built it up, organising trade stands and speakers for the members. Sue remained Chairman for two years whilst searching for a successor, however no-one came forward and unfortunately Sue can now no longer remain in the position. Unfortunately the nearest branches for those who usually attended this branch will now be over an hour away for most and will no longer receive the BCPA newsletter. Should anyone be interested in the position of Chairman or Secretary for the Thames Valley Branch, please do get in touch with the BCPA Chairman. Full support will be offered for anyone wanting to apply for these positions. The Chairman would like to thank Sue and the rest of the committee, for all they have done with the Thames Valley Branch.



## West Midlands Branch

**Chairman: Eléna Serafinas Broom**  
elenapodiatry@hotmail.com

Venue: Aldridge Community Centre,  
Anchor Meadow, Middlemore Lane,  
Aldridge, Walsall, West Midlands WS9 8AN  
12noon – 4pm



## The Benevolent Fund

**William J. Liggins (Bill)**  
wjsjliggins@gmail.com

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