Same Day Emergency Care Physician Associate Educational Resource Package



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Author and Acknowledgements

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Development of the SDEC PA Educational Resource Package was guided by a project group lead by Marie-Louise Turner (Physician Associate Ambassador, NHSE). Project management was provided by Melissa Marques (Project Manager, NHSE) and Raphael Broughton (Associate Workforce Transformation Lead, NHSE).

The e-learning resources were reviewed by a selection of PAs working in SDEC across three secondary care trusts in London.

The document was reviewed by two SDEC Lead Consultants in two secondary care trusts in London.

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# Introduction

## Summary

NHS England (NHSE) and Health Education England (HEE) agreed on priorities for the Urgent and Emergency Care workforce programme for 2021/22 and 2022/23, which included Same Day Emergency Care (SDEC). Engagement with stakeholders working in or with SDEC services identified the need to increase the educational resources available to Physician Associates (PAs) working in SDEC.

With educational opportunities for PAs being identified as a priority, HEE as was (now NHSE) agreed to lead a piece of work exploring the ways in which PAs working in SDEC could benefit from existing educational materials and learning events, many of which were developed to support Junior Doctors and other workforce groups in a range of specialty areas. After approaching the specialty schools, each Head of School or Specialty Director approved the principle of sharing access to these resources with the PA workforce. Subsequently, with PA clinical input to help steer the development of the educational framework, the ‘Same Day Emergency Care Physician Associate Educational Resource Package’ was developed.

## Background

SDEC allows specialists, where appropriate, to care for patients within the same day of arrival as an alternative to hospital admission, removing delays for patients requiring further investigation and or treatment.

Over the last decade, SDEC has become a widely used and accepted model of care for the management of acutely unwell patients, creating improved patient flow, supporting early senior clinical decision-making, and maximising the opportunity to reduce waiting times and hospital admission where safe to do so.

Under the SDEC care model, patients presenting at the hospital with relevant conditions can be rapidly assessed, diagnosed, and start treatment without requiring admission to a ward. This improves patient experience and can reduce avoidable hospital admissions. Where required, a patient may need to return to the hospital for additional treatment and monitoring and this should be facilitated through SDEC where clinically appropriate. The SDEC service provides an additional role in the follow-up of early supported discharges from the ward.

The SDEC model builds on previous improvement work in ambulatory emergency care (AEC) across the NHS with the aim of providing a consistent approach to patient pathways.

NHS England’s Planning Guidance outlines the need to restore SDEC services from Covid-19 as a priority to maximise the utilisation of direct access to SDEC as well as expand models of SDEC provision across the urgent, primary, community and mental health services. It is imperative that workforce models to support SDEC services are reviewed, and plans put in place to support staff wellbeing, education and training and opportunities to develop in their roles.

## SDEC ‘Gold Standard’ in Hospital Pathways

In January 2021, NHS England developed a set of 10 ‘gold standards’ in hospital pathways which were created collaboratively across London and rolled out to all providers:

1. Pyelonephritis
2. Abscess
3. Acute Kidney Injury
4. Atrial Fibrillation
5. Deep Vein Thrombosis
6. Falls in People Aged ≥ 65
7. Hyperemesis Gravidarum
8. Low-Risk Chest Pain
9. Lower Limb Cellulitis
10. Pulmonary Embolism

The 10 ‘gold standards’ in hospital pathways formed the foundation of SDEC and came from the ambulatory care services tradition from which SDEC has evolved. Whilst that was the foundation of SDEC, services have developed from this and have branched out to incorporate other specialities. As such SDEC services now see a wide range of conditions across specialty areas including frailty, oncology, urology, gynaecology, orthopaedics, and general surgery.

## Physician Associates

PAs are ‘medically trained, generalist healthcare professionals, who work alongside doctors and provide medical care as an integral part of the multidisciplinary team’ (Faculty of Physician Associates; FPA). The profession originally began in the United States and was introduced in the UK in 2003. PAs have a wide, but defined, scope of practice including taking medical histories, conducting physical examinations, formulating differential diagnoses and management plans, ordering, and interpreting investigations and performing minor procedures. PAs work under the supervision of a senior doctor but can work autonomously with appropriate support.

PAs have an increasing role to play in SDEC as part of a multi-skilled workforce. They provide generalist medical insight and continuity of care which aids the consistent approach to patient pathways.

## The Educational Resource Package

This targeted educational resource package has been developed to signpost PAs working in SDEC, to relevant learning resources. The document has been structured to complement the 10 SDEC ‘gold standards’ in-hospital pathways. As such, the conditions covered are most focused towards a PA working in acute medicine.

NHSE would recommend that all PAs working in SDEC are aware of and are supported to complete the e-learning resources included in this educational package, as part of their Continued Professional Development (CPD). The learning resources are not mandated, and it is suggested that PAs should complete the resources that are most relevant to their learning needs.

This is not an exhaustive list, it is a collection of online resources, e-learning materials and training opportunities which cover the conditions set out in the 10 ‘gold standard’ in hospital pathways. Resource and guidelines are changing and trust policies vary, and, as such, user discretion is recommended, and these resources should not replace local guidelines.

## Audience

The ‘SDEC PA Educational Resource Package’ is aimed to be used by PAs working in SDEC to signpost them to useful educational resources. The educational resources should be appropriate for the learning needs of PAs throughout their development. The framework can support supervisors by providing a structure to inform the design and delivery of post-qualification teaching. It can also be used as a basis for training needs analysis, comparing current skills and knowledge with required skills and knowledge. The framework can assist PAs in the development of a portfolio of evidence of capability.

## SDEC Exclusion Criteria:

##

Could the patient be treated on a community or primary care pathway (not in hospital)?

Does the patient have a minor illness or injury which could be treated in a UTC?

Is the patient aged <18?

Is the patient’s NEWS2 score $\geq $5, or 3 in a single parameter OR do the patient’s symptoms suggest they are physiologically unstable?

Does the patient have any new confusion (different to baseline)?

Does the patient have any suspected features, musculoskeletal injuries or open wounds?

Potential referral for SDEC – please call your nearest SDEC department before considering ED

Refer to primary or community care such as urgent community response

Refer to UTC

Refer to appropriate paediatric pathway

Refer to Emergency Department

If the patient is >65 years consider frailty pathway – see separate pathway. If <65 refer to ED

Refer to UTC or Emergency Department

**NO**

**NO**

**NO**

**NO**

**NO**

**NO**

**YES**

**YES**

**YES**

**YES**

**YES**

**YES**

# Physician Associate Capabilities

Once qualified a PA should understand the diagnosis and management of each of the 10 ‘gold standard’ conditions, in a patient presenting with the problem for the first time. They should be able to manage the condition safely in an SDEC setting, taking measures to avoid immediate deterioration and referring appropriately. However, the PA will work under the supervision of a senior doctor and the amount of support required will vary depending on the PA’s capabilities and confidence.

PAs are currently unable to prescribe or request ionising radiation (for example, X-Ray or CT scans). However, they are expected to have an adequate level of pharmacology knowledge to safely manage patients under supervision. It is expected that once PAs are regulated by the General Medical Council (GMC) by the end of 2024, this will pave the way for broadening the scope of practice, including requesting ionising radiation where local governance allows and the possibility of being able to prescribe in the future. For further information about regulation see [the GMC website](https://www.gmc-uk.org/pa-and-aa-regulation-hub).

For each of the 10 ‘gold standard’ conditions, with support, the PA should be able to:

* 1. diagnose or include as a differential diagnosis
	2. demonstrate awareness of risk factors and red flags
	3. carry out a physical examination to exclude other causes of symptoms
	4. demonstrate an ability to order and interpret appropriate investigations
	5. demonstrate an ability to use the National Institute for Health and Care Excellence (NICE) guidelines and/or Trust policy to devise suitable management plans
	6. take measures to avoid immediate deterioration and escalate appropriately
	7. refer appropriately for management
	8. demonstrate awareness of further investigations and follow-up required
	9. demonstrate an ability to provide prevention advice to reduce future risk.

It is important that all PAs are aware of their capabilities and limitations and should escalate or refer appropriately to ensure the safety of patients. PAs must practice in accordance with the requirements, including supervisory requirements and defined scope of practice, as set out by the FPA and GMC once regulation is in place.

This document is not intended as a curriculum but as a resource to use alongside the existing curriculum, as standalone learning for practitioners wishing to gain knowledge in treating patients presenting to SDEC. The resources should be used in conjunction with appraisal and personal development needs. Its use will depend on the setting it is used within and the way each individual chooses to use it.

The resources have been selected to ensure that they are appropriate for PAs with varying levels of experience working in SDEC. As such, there may be some overlap between resources and NHSE would recommend that PAs select the learning materials that are most relevant to their learning needs within each area. The framework does not mandate levels of training or supervision.

# 10 ‘Gold Standards’ in Hospital Pathways

|  |
| --- |
| Pyelonephritis |
| Key Capabilities / Knowledge |
| 1. Diagnose or include Pyelonephritis as a differential diagnosis
2. Demonstrate awareness of risk factors and red flags for Pyelonephritis
3. Ability to carry out a physical examination to exclude other causes of symptoms
4. Demonstrate ability to order and interpret appropriate investigations
5. Ability to develop an appropriate management plan
6. Take measures to avoid immediate deterioration and escalate appropriately
7. Ability to refer appropriately for management
8. Demonstrate awareness of further investigations and follow up required
9. Ability to provide prevention advice to reduce risk factors for future Pyelonephritis
 |
|  |
| Online Source | Resource Title | Learning Link |
| The below are online resources to aid your understanding of Pyelonephritis. They provide an overview of the topic and information on the causes, presentation, diagnosis, and management of Pyelonephritis. As well as the current NICE guidelines. Please also consult your trust policy as this may vary across trusts. |
| NICE Clinical Knowledge Summaries (CKS) | NICE CKS:Pyelonephritis | [Acute Pyelonephritis](https://cks.nice.org.uk/topics/pyelonephritis-acute/)  |
| British Medical Journal (BMJ) BestPractice | AcutePyelonephritis | [Acute Pyelonephritis](https://bestpractice.bmj.com/topics/en-gb/3000111) |
| BMJ BestPractice | ChronicPyelonephritis | [Chronic Pyelonephritis](https://bestpractice.bmj.com/topics/en-gb/552?q=Pyelonephritis%2C%20chronic&c=suggested) |
| Patient.info  | Pyelonephritis | [Professional Articles: Pyelonephritis](https://patient.info/doctor/pyelonephritis)  |
| Zero to Finals | Pyelonephritis |  [Pyelonephritis](https://zerotofinals.com/surgery/urology/pyelonephritis/) |
| Geeky Medics | Urological History Taking | [Urological History Taking](https://geekymedics.com/urological-history-taking/) |
| Almost a doctor | Urinary TractInfection | [Urinary Tract Infection](https://almostadoctor.co.uk/encyclopedia/urinary-) |
|  |
| E-Learning |
| The following e-learning modules have been developed to aid understanding of the recognition and management of Pyelonephritis. We recommend that PAs complete this e-learning as part of their CPD. Sign up is via each of the e-learning hubs. |
| Source | Course Title | Link to E-Learning |
| Royal College of Emergency Medicine’s (RCEM) Learning | Urinary Tract Infections (UTIs) | [Urinary Tract Infections](https://www.rcemlearning.co.uk/reference/urinary-tract-infections/#1620735480171-e9907771-5cb4)**Description:** This session covers the assessment and management from simple to complex UTIs, including acute pyelonephritis in the Emergency Department (ED).**Average completion time**: 35-45 minutes |
| E-Learning for Healthcare | Urinary Tract Infections | [Urinary Tract Infections](https://portal.e-lfh.org.uk/LearningContent/Launch/426362)**Description:** The session covers the diagnosis, complications and treatment of UTIs in the ED.**Average completion time:** 30 minutes |
| BMJ Learning | AcutePyelonephritis | [Acute Pyelonephritis](https://bestpractice.bmj.com/topics/en-gb/3000111) **Description:** This session provides a summary of the appropriate history and examination with diagnostic investigations and acute treatment algorithms of patients with acute pyelonephritis.**Average completion time**: 60-90 minutes |

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| Abscess |
| Key Capabilities / Knowledge |
| 1. Diagnose or include Abscess as a differential diagnosis
2. Ability to refer appropriately for management
3. Demonstrate awareness of risk factors and red flags for Abscess
4. Ability to carry out a physical examination to exclude other causes of symptoms
5. Demonstrate ability to order and interpret appropriate investigations
6. Ability to develop an appropriate management plan
7. Take measures to avoid immediate deterioration and escalate appropriately
8. Demonstrate awareness of further investigations and follow up required
9. Ability to provide prevention advice to reduce risk factors for future Abscess
 |
|  |
| Online Source | Resource title | Learning Link |
| The below are online resources to aid your understanding of common Abscess presentations. They provide an overview of the topic and information on the causes, presentation, diagnosis, and management of Abscesses, including carbuncles, anorectal and breast abscess. As well as the current NICE guidelines. Please note that in most cases, groin, peri-anal, breast and joint abscesses will require specialty referral. Please consult your trust policy as this may vary across trusts. |
| NICE ClinicalKnowledge Summaries | NICE CKS: Boils,carbuncles, and staphylococcal carriage | [Boils, Carbuncles, and Staphylococcal carriage](https://cks.nice.org.uk/topics/boils-carbuncles-staphylococcal-carriage/) |
| NICE Clinical Knowledge Summaries | NICE CKS:Pilonidal Sinus Disease | [Pilonidal Sinus Disease](https://cks.nice.org.uk/topics/pilonidal-sinus-disease/) |
| NICE ClinicalKnowledge Summaries | NICE CKS:Mastitis and Breast Abscess | [Mastitis and Breast Abscess](https://geekymedics.com/mastitis-and-breast-abscess/) |
| Patient.info  | Boils and Carbuncles | [Professional Articles: Boils and Carbuncles](https://patient.info/doctor/boils-and-carbuncles) |
| Patient.info | AnorectalAbscess | [Professional Articles: Anorectal Abscess](https://patient.info/doctor/anorectal-abscess) |
| Zero to Finals | Breast Abscess | [Breast Abscess](https://zerotofinals.com/surgery/breast/breastabscess/) |
| BMJ Best Practice | Anorectal Abscess | [Anorectal Abscess](https://bestpractice.bmj.com/topics/en-gb/644) |
| BMJ Best Practice | Breast Abscess | [Breast Abscess](https://bestpractice.bmj.com/topics/en-gb/1084) |
| Geeky Medics | Urological HistoryTaking | [Urological History Taking](https://geekymedics.com/urological-history-taking/) |
|  |
| E-Learning |
| The following e-learning modules have been developed to aid understanding of the |
| recognition and management of common abscess presentations. We recommend that |
| PAs complete this e-learning as part of their CPD. Sign up via each of the e-learning hubs. |
| Source | Course Title | Link to E-Learning |
| RCEM Learning | Abscess in the Emergency Department (ED) | [Abscesses in the ED](https://www.rcemlearning.co.uk/modules/abscess)**Description:** This module presents three single best answer case-based discussions of a male presenting to ED with a back abscess.**Average completion time:** 15 minutes |
| RCEM Learning | Incision and Drainage in the Emergency Department (ED) | [Incision and Drainage of an Abscess](https://www.rcemlearning.co.uk/foamed/incision-and-drainage-in-the-ed/) **Description:** This blog considers how to perform Incision and Drainage of an Abscess in the ED and how those familiar with the procedure might set up practical training sessions.**Average completion time:** 15 minutes |
| E-Learning for Healthcare | 07\_02\_02\_02 -Pilonidal Sinus | [Pilonidal Sinus](https://portal.e-lfh.org.uk/myElearning/Index?HierarchyId=0_71_31729_50811_50812&programmeId=71) **Description:** This session describes the aetiology of pilonidal sinus disease and considers the role of surgery in the management of pilonidal sinuses and abscesses. Later, it will investigate the non-surgical management of pilonidal sinus disease, including the evidence for the use of laser hair reduction.**Average completion time:** 30 minutes |
| E-Learning for Healthcare | 07\_02\_02\_02 -Pilonidal Sinus | [Pilonidal Sinus](https://portal.e-lfh.org.uk/myElearning/Index?HierarchyId=0_71_31729_50811_50812&programmeId=71) **Description:** This session describes the aetiology of pilonidal sinus disease and considers the role of surgery in the management of pilonidal sinuses and abscesses. Later, it will investigate the non-surgical management of pilonidal sinus disease, including the evidence for the use of laser hair reduction.**Average completion time:** 30 minutes |
| E-Learning forHealthcare | 06\_02\_02\_02 -Mastitis and Breast Abscess | [Mastitis and Breast Abscess](https://portal.e-lfh.org.uk/myElearning/Index?HierarchyId=0_71_31447_32737_48410&programmeId=71) **Description:** This session offers guidance on the difference between infectious and non-infectious mastitis. Later sections describe the management of lactation mastitis and breast abscess**.****Average completion time:** 25 minutes |

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| Acute Kidney Injury (AKI) |
| Key Capabilities / Knowledge |
| 1. Diagnose or include AKI as a differential diagnosis
2. Demonstrate awareness of risk factors and red flags for AKI
3. Ability to carry out a physical examination to exclude other causes of symptoms
4. Demonstrate ability to order and interpret appropriate investigations
5. Demonstrate ability to use NICE criteria for AKI
6. Ability to develop an appropriate management plan
7. Take measures to avoid immediate deterioration and escalate appropriately
8. Ability to refer appropriately for management as required
9. Demonstrate awareness of further investigations and follow up required for AKI
10. Ability to provide prevention advice to reduce risk factors for future AKI
 |
|  |
| Online Source | Resource Title | Learning Link |
| The below are online resources to aid your understanding of Acute Kidney Injury (AKI). They provide an overview of the topic and information on the causes, presentation, diagnosis, and management of AKI. As well as the current NICE guidelines. Please also consult your trust policy as this may vary across trusts. |
| NICE Clinical Knowledge Summaries | CKS topics: Acute Kidney Injury | [Acute Kidney Injury](https://cks.nice.org.uk/topics/acute-kidney-injury/) |
| Patient.info | Acute Kidney Injury | [Professional Articles: Acute Kidney Injury](https://patient.info/doctor/acute-kidney-injury-pro) |
| Zero to Finals | Acute Kidney Injury | [Acute Kidney Injury](https://zerotofinals.com/medicine/renal/aki/) |
| BMJ Best Practice | Acute Kidney Injury | [Acute Kidney Injury](https://bestpractice.bmj.com/topics/en-gb/3000117) |
| Geeky Medics | Acute Kidney Injury | [Acute Kidney Injury](https://geekymedics.com/acute-kidney-injury-) |
| Geeky Medics | Acute Kidney Injury- Objective Structured Clinical Examination (OSCE) Guide | [Renal System Examination](https://geekymedics.com/renal-system-examination-osce-guide/) |
| Almost a doctor | Acute Kidney Injury | [Acute Kidney Injury](https://almostadoctor.co.uk/encyclopedia/acute-kidney-injury-aki) |
| MDCalc | Risk, Injury, Failure, Loss and End-stage kidney disease (RIFLE) criteria for severity of AKI | [RIFLE Criteria for Acute Kidney Injury](https://www.mdcalc.com/calc/10019/rifle-)  |
|  |
| E-Learning |
| The following e-learning modules have been developed to aid understanding of the recognition and management of AKI. We recommend that PAs complete this e-learning as part of their CPD. Sign up via each of the e-learning hubs. |
| Source | Course Title | Link to E-Learning |
| E-Learning for Healthcare | ACUMEN Acute kidney injury 01 | [Acute Kidney Injury](https://portal.e-lfh.org.uk/Component/Details/547800)**Description:** This interactive scenario describes a case of a patient presenting with an AKI. As you progress through the scenario you can apply your knowledge and skills to diagnose and treat this patient. Once you have specified a treatment plan, a simulation of the patient's responses over a period of time enables you to evaluate its success.**Average completion time:** 30 minutes |
| E-Learning for Healthcare | Kidn-e 01 - Acute Kidney Injury | [Acute Kidney Injury](https://portal.e-lfh.org.uk/Component/Details/392169)**Description:** This module covers 7 sessions explaining how to recognise patients at risk of AKI and how to prevent the development of this condition. It describes how to diagnose AKI and determine its cause. It also describes how to provide fluid resuscitation and maintain fluid balance in the patient, as well as discussing the basic principles of management of specific causes of AKI and dialysis treatment.**Average completion time**: 25 minutes per session |
| E-Learning forHealthcare | 05\_011Investigation and management of acute kidney injury | [Investigation and Management of AKI](https://portal.e-lfh.org.uk/Component/Details/439235)**Description:** This session considers the definition, assessment, investigation and management of AKI. The principles of fluid and drug prescribing are discussed.**Average completion time**: 45 minutes |
| E-Learning for Healthcare | Initial management of AKI | [Initial Management of AKI](https://portal.e-lfh.org.uk/Component/Details/590736)**Description:** This session describes the important investigations for AKI and explores its initial management up to renal replacement therapies.**Average completion time**: 1 hour |
| RCEM Learning | Acute Kidney Injury | [Acute Kidney Injury](https://www.rcemlearning.org/modules/acute-kidney-injury/)**Description:** This session uses a series of clinical cases, to illustrate the common presentations and complications of AKI. It will cover the diagnosis, investigation and management of AKI in the ED.**Average completion time**: 1 hour |
| BMJ Learning | Hospital presentations: acute kidney injury and chronic kidney disease (CKD) | [Hospital Presentations of AKI and CKD](https://new-learning.bmj.com/course/10054296)**Description:** This is an interactive case-based module covering recognition, assessment, treatment and prognosis of AKI and CKD.**Average completion time**: 2 hours |

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| Atrial Fibrillation |
| Key Capabilities / Knowledge |
| 1. Diagnose or include Atrial Fibrillation (AF) as a differential diagnosis
2. Demonstrate awareness of risk factors and red flags for AF
3. Ability to carry out a physical examination to exclude other causes of symptoms
4. Demonstrate ability to order and interpret appropriate investigations
5. Demonstrate awareness of using CHA2DS2-VASc score to assess risk of stroke
6. Ability to develop an appropriate management plan
7. Take measures to avoid immediate deterioration and escalate appropriately
8. Ability to refer appropriately for management as required
9. Demonstrate awareness of further investigations and follow up as required
10. Ability to provide prevention advice to reduce risk factors for future AF
 |
| Online Source | Resource Title | Learning Link |
| The below are online resources to aid your understanding of Atrial Fibrillation (AF). Theyprovide an overview of the topic and information on the causes, presentation, diagnosis, and management of AF. As well as the current NICE guidelines. Please also consult your trust policy as this may vary across trusts. |
| NICE Clinical Knowledge Summaries | NICE CKS: Atrial Fibrillation. | [Atrial fibrillation](https://cks.nice.org.uk/topics/atrial-fibrillation/) |
| Patient.info | Atrial Fibrillation | [Professional Articles: Atrial Fibrillation](https://patient.info/doctor/atrial-fibrillation-pro) |
| Zero to Finals | Atrial Fibrillation | [Atrial Fibrillation](https://zerotofinals.com/medicine/cardiology/af/) |
| BMJ BestPractice | New Onset AtrialFibrillation | [New-onset Atrial Fibrillation](https://bestpractice.bmj.com/topics/en-gb/3000087?q=Atrial%20fibrillation%2C%20acute&c=suggested)  |
| BMJ BestPractice | Chronic AtrialFibrillation | [Chronic Atrial Fibrillation](https://bestpractice.bmj.com/topics/en-gb/1?q=Atrial%20fibrillation%2C%20chronic&c=suggested)  |
| Geeky Medics | Atrial Fibrillation | [Atrial Fibrillation](https://geekymedics.com/atrial-fibrillation/) |
| Geeky Medics | Atrial Fibrillation, ABCDE approach | [Acute Management of Atrial Fibrillation](https://geekymedics.com/management-of-acute-atrial-fibrillation/) |
| Almost a doctor | Atrial Fibrillation | [Atrial Fibrillation](https://almostadoctor.co.uk/encyclopedia/atrial-fibrillation) |
| Life in the FastLane | Atrial Fibrillation | [Atrial Fibrillation](https://litfl.com/atrial-fibrillation/) |
| Life in the Fast Lane | Atrial Fibrillation Electrocardiogram (ECG) Library | [Atrial Fibrillation ECG Diagnosis](https://litfl.com/atrial-fibrillation-ecg-library/) |
| MDCalc | CHA2DS2-VAScScore for Atrial Fibrillation Stroke Risk | [CHA₂DS₂-VASc Score for Atrial Fibrillation](https://www.mdcalc.com/calc/801/cha2ds2-vasc-score-atrial-fibrillation-stroke-risk) |
|  |
| E-Learning |
| The following E-Learning modules have been developed to aid understanding of the recognition and management of AF. We recommend that PAs complete this e-learning as part of their CPD. Sign up via each of the e-learning hubs. |
| Source | Course Title | Link to E-Learning |
| E-Learning for Healthcare | Atrial Fibrillation | [Atrial Fibrillation](https://portal.e-lfh.org.uk/LearningContent/Launch/427386)**Description:** This session is about atrial fibrillation, the most common form of cardiac dysrhythmia. At the end of the session there are 4 clinical case scenarios to work through.**Average completion time:** 45 minutes  |
| E-Learning for Healthcare | Stroke prevention in AF | [Stroke Prevention](https://gbr01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fportal.e-lfh.org.uk%2FComponent%2FDetails%2F649446&data=05%7C01%7Cnicole.king2%40nhs.net%7C39c10e53d0984b649b8d08dacf032c43%7C37c354b285b047f5b22207b48d774ee3%7C0%7C0%7C638049909769833582%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=EUYLLqCwcCoTmF%2FucIOeZbB5XrN836E3PGUkmfUcSUQ%3D&reserved=0)**Description:** This programme covers how to assess a patients stroke risk and suitability for anticoagulation therapy. As well as how to initiate and monitor anticoagulation therapy, including patient counselling.**Average completion time**: 40 minutes |
| RCEM Learning | Lessons on the management of previously diagnosed atrial fibrillation | [Atrial Fibrillation](https://www.rcemlearning.co.uk/reference/atrial-) **Description:** This is a reading module covering the definition, classification, assessment, and management of AF. As well as the consequences of misdiagnosis of AF in the ED.**Average completion time**: 30 minutes |
| BMJ Learning | Starting patients in secondary care on anticoagulation: how to do it | [Starting Anticoagulants in Secondary Care](https://new-learning.bmj.com/course/10056761)**Description:** This module provides essential information on starting anticoagulants safely and effectively in the secondary care setting.**Average completion time**: 1 hour |

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| Deep Vein Thrombosis |
| Key Capabilities / Knowledge |
| 1. Diagnose or include Deep Vein Thrombosis (DVT) as a differential diagnosis
2. Demonstrate awareness of risk factors and red flags for DVT

a. Cancer, Pregnancy, recent immobilisation, surgery within the last 12 weeks, long haul flights, thrombophilia, history of DVT1. Ability to carry out a physical examination to exclude other causes of symptoms
2. Demonstrate awareness of using Wells score to assess the probability of DVT
3. Demonstrate ability to order and interpret appropriate investigations
4. Ability to develop an appropriate management plan
5. Take measures to avoid immediate deterioration and escalate appropriately
6. Ability to refer appropriately for management as required
7. Demonstrate awareness of further investigations required for unprovoked DVT
8. Demonstrate awareness of further follow up as required
9. Ability to provide prevention advice to reduce risk factors for future DVTs
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| Online Source | Resource Title | Learning Link |
| The below are online resources to aid your understanding of Deep Vein Thrombosis (DVT). They provide an overview of the topic and information on the causes, presentation, diagnosis, and management of DVT. As well as the current NICE guidelines. Please also consult your trust policy as this may vary across trusts. |
| NICE Clinical Knowledge Summaries | CKS topics: Deep vein thrombosis | [Deep Vein Thrombosis](https://cks.nice.org.uk/topics/deep-vein-thrombosis/) |
| Patient.info | Deep VeinThrombosis | [Professional Articles: Deep Vein Thrombosis](https://patient.info/doctor/deep-vein-thrombosis-pro) |
| Zero to Finals | Deep Vein Thrombosis | [Deep Vein Thrombosis](https://zerotofinals.com/surgery/vascular/dvt/) |
| BMJ Best Practice | Deep Vein Thrombosis | [Deep Vein Thrombosis](https://bestpractice.bmj.com/topics/en-gb/3000112) |
| Geeky Medics | PeripheralVascular Examination - OSCE Guide | [Peripheral Vascular Examination](https://youtu.be/1kfg1mYRJ-g) |
| Almost a doctor | Deep Vein Thrombosis | [Deep Vein Thrombosis](https://almostadoctor.co.uk/encyclopedia/dvt-and-pe) |
| Almost a doctor | Deep VeinThrombosis examination | [Deep Vein Thrombosis Examination](https://almostadoctor.co.uk/encyclopedia/dvt-exam) |
| MDCalc | Wells’ Criteria for DVT, Wells 2003 | [Wells Criteria for DVT](https://www.mdcalc.com/calc/362/wells-criteria-dvt)  |
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| E-Learning |
| The following E-Learning modules have been developed to aid understanding of therecognition and management of DVT. We recommend that PAs complete this e-learning as part of their CPD. Sign up via each of the e-learning hubs. |
| Source | Course Title | Link to E-Learning |
| E-Learning for Healthcare | VTE 01 - Venous Thromboembolism | [Venous Thromboembolism](https://portal.e-lfh.org.uk/myElearning/Index?HierarchyId=0_27_640&programmeId=27)**Description**: These sessions have been developed in partnership with the National Venous Thromboembolism (VTE) Prevention Programme.VTE Prevention in Secondary Care: covers how to assess a patient's risk of VTE and choose a suitable prevention method (thromboprophylaxis), as well as identifying the cause of VTE in hospitalised patients and how to audit each of these steps.VTE Prevention for Healthcare Undergraduate Students: covers the pathophysiology of how VTE develops, the common risk factors for VTE and the strategies to prevent VTE in hospitalised patients.**Average completion time:** 30 minutes per session |
| E-Learning for Healthcare | 03\_058 Limb pain and swelling | [Limb Pain and Swelling](https://portal.e-lfh.org.uk/Component/Details/439437)**Description**: This session addresses the causes of swollen, painful limbs, with a particular focus on DVT. The assessment, investigations and management of DVT will be covered. The end of the session includes a short self-assessment quiz.**Average completion time**: 30 minutes |
| E-Learning for Healthcare | 01\_09 Common and Important Clinical Scenarios: Sepsis and Thromboembolism | [Sepsis and Thromboembolism in pregnancy](https://portal.e-lfh.org.uk/Component/Details/92795)**Description**: VTE and sepsis are common causes of morbidity and mortality in pregnancy. This session discusses the incidence, presentation and management of these conditions in pregnancy.**Average completion time**: 20 minutes |

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| BMJ Learning | Ask an expert:Deep Vein Thrombosis | [Deep Vein Thrombosis](https://new-learning.bmj.com/course/10057844)**Description**: Although aimed at those working in primary care, this session provides valuable information on the assessment of symptomatic patients with DVT; wells score; when to order a Doppler vs D-Dimer, anticoagulation treatment and when to investigate for thrombophilia.**Average completion time**: 1 hour |
| RCEM Learning | Deep veinthrombosis in the ED | [Deep Vein Thrombosis in the ED](https://www.rcemlearning.org/modules/deep-vein-thrombosis-in-the-ed/)**Description**: This module covers the assessment and management of DVT in the ED setting. The session includes a selection of case studies to self-assess learning.**Average completion time**: 45 minutes |
| E-Learning for Healthcare | 18\_07 Image Interpretation - Vascular Ultrasound: Lower Limb for DVT | [Vascular Ultrasound for Lower Limb DVT](https://portal.e-lfh.org.uk/Component/Details/483621)**Description**: This session considers the sonographic appearances of the lower limb deep veins. There will be an overview of normal anatomy and common abnormal findings. Tips on technique, avoiding pitfalls and report writing will be offered. This session would be most appropriate for a PA who has undertaken further training on USS.**Average completion time**: 40 minutes |

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| Falls in People Aged ≥ 65 years |
| Key Capabilities / Knowledge |
| 1. Ability to take a thorough falls history and demonstrate awareness of differential diagnosis for falls in people over 65 years old
2. Ability to carry out a physical examination to exclude other causes of falls
3. Demonstrate ability to order and interpret appropriate investigations
4. Ability to develop an appropriate management plan
5. Take measures to avoid immediate deterioration and escalate appropriately
6. Ability to refer appropriately for management
7. Demonstrate awareness of further investigations and follow up as required
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| Online Source | Resource Title | Learning Link |
| The below are online resources to aid your understanding of Falls in people aged 65 or over. They provide an overview of the topic and information on the causes, presentation, diagnosis, and management of falls. As well as the current NICE guidelines. Please also consult your trust policy as this may vary across trusts. |
| NICE ClinicalKnowledge Summaries | Scenario: Falls -risk assessment | [Falls risk assessment](https://cks.nice.org.uk/topics/falls-risk-assessment/management/falls-risk-assessment/) |
| Patient.info | Prevention ofFalls in Elderly People | [Professional Articles: Prevention of Falls in Elderly People](https://patient.info/doctor/prevention-of-falls-in-the-elderly-pro) |
| BMJ Best Practice | Assessment of falls in the elderly | [Assessment of Falls in the Elderly](https://bestpractice.bmj.com/topics/en-gb/880) |
| Almost a Doctor | Falls | [Falls](https://almostadoctor.co.uk/encyclopedia/falls) |
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| E-Learning |
| The following e-learning modules have been developed to aid understanding of therecognition and management of Falls in ≥65s. We recommend that PAs complete this e- learning as part of their CPD. Sign up via each of the e-learning hubs. |
| Source | Course Title | Link to E-Learning |
| E-Learning for Healthcare | Falls Knowledge in older people | [Falls Knowledge in Older People](https://portal.e-lfh.org.uk/LearningContent/Launch/512401)**Description:** This session discusses the causes of falls in older people.**Average completion time:** 10 minutes |
| E-Learning for Healthcare | Falls Assessment in older people | [Falls Assessment in Older People](https://portal.e-lfh.org.uk/LearningContent/Launch/482609)**Description:** This session covers the risk factors for falling consequences of falls for elderly people and the management of falls.**Average completion time:** 20 minutes |
| E-Learning for Healthcare | Geriatric Medicine Falls Scenario | **Description:** These sessions provide a number of cases where a patient presents with a fall. As you progress through the scenario you will have the opportunity to apply your knowledge to diagnose and treat the patient. A simulation of the patients’ responses over time enables you to evaluate the success of your treatment plan.[Falls Case 1:](https://portal.e-lfh.org.uk/LearningContent/Launch/325513) An 85-year-old female presents following a fall at home.[Falls Case 2:](https://portal.e-lfh.org.uk/LearningContent/Launch/364185) A 72-year-old man is bought to A&E after falling 3 times in 72 hours.[Unsteadiness Case 1:](https://portal.e-lfh.org.uk/LearningContent/Launch/369117) A 72-year-old female presents with unsteadiness and a history of falls.**Average completion time:** 30 minutes |
| The MDTea Podcast from the Hearing Aid Podcasts Family | Mobility and Falls | [The MDTea Podcast series - Mobility and Falls](http://thehearingaidpodcasts.org.uk/mobility-and-falls/)**Description**: Podcast series for healthcare professionals working with older adults.[Episode 1.01 Comprehensive Geriatric Assessment:](http://thehearingaidpodcasts.org.uk/episode-1-1-comprehensive-geriatric-assessment/) explains what the Comprehensive Geriatric Assessment (CGA) is about and why it matters for older people. Specifically, it explores the role each member of the MDT in the process to create a person-centred plan.[Episode 1.05 Acute Falls Management:](http://thehearingaidpodcasts.org.uk/episode-1-5-acute-management-post-fall/) covers the acute management of falls, what causes them and why they are important.[Episode 1.09 Dizziness and Balance:](http://thehearingaidpodcasts.org.uk/episode-1-9-dizziness-and-balance/) explores the complex interplay of dizziness and balance and explores causes of and importance of managing ‘dizziness’ in older people.[Episode 2.09 Falls Prevention:](http://thehearingaidpodcasts.org.uk/episode-2-09-falls-prevention/) covers the evidence base for falls prevention, particularly community-based programmes designed to improve balance and mobility.[Episode 7.06 Falls: to admit or not?](http://thehearingaidpodcasts.org.uk/7-06-falls-to-admit-not-not/) covers common causes of falls in older adults and discusses causes for which acute admission may modify outcome.**Average completion time:** 1 hour per episode |
| British Geriatrics Society | Geriatric Medicine for Undergraduates: Falls in Older Adults | [Falls in Older Adults](https://xerte.nottingham.ac.uk/play_8633#page2)**Description**: This package aims to improve awareness of the importance of falls in older adults, as well as introducing the management of older patients who falls.**Average completion time**: 45 minutes |
| BMJ Best Practice | Assessment of falls in the elderly | [Assessment of Falls in the Elderly](https://bestpractice.bmj.com/topics/en-gb/880/)**Description**: This session provides a summary of aetiology, urgent considerations, differential diagnosis and approaches to falls in the elderly..**Average completion time**: 1 hour |
| RCEM Learning | Falls | [Falls](https://www.rcemlearning.co.uk/modules/falls/)**Description**: This module provides an overview of falls, including pathophysiology, history taking, risk assessment, examination, investigations, and management. Throughout there are interactive quizzes and learning bites. The module also includes 2 falls clinical case studies with self-assessment.**Average completion time**: 45-60 minutes |

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| Hyperemesis Gravidarum |
| Key Capabilities / Knowledge |
| 1. Diagnose or include Hyperemesis Gravidarum as a differential diagnosis
2. Ability to carry out a physical examination to exclude other causes of symptoms
3. Demonstrate ability to order and interpret appropriate investigations
4. Ability to develop an appropriate management plan
5. Take measures to avoid immediate deterioration and escalate appropriately
6. Ability to refer appropriately for management
7. Demonstrate awareness of further investigations and follow up as required
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| Online Source | Resource Title | Learning Link |
| The below are online resources to aid your understanding of Hyperemesis Gravidarum.They provide an overview of the topic and information on the causes, presentation, diagnosis, and management of Hyperemesis Gravidarum. As well as the current NICE guidelines. Please also consult your trust policy as this may vary across trusts. |
| NICE Clinical Knowledge Summaries | NICE CKS: Nausea/ Vomiting in pregnancy | [Nausea and Vomiting in Pregnancy](https://cks.nice.org.uk/topics/nausea-vomiting-in-pregnancy/)  |
| Patient.info | HyperemesisGravidarum | [Professional Articles: Nausea and Vomiting in Pregnancy](https://patient.info/doctor/nausea-and-vomiting-in-pregnancy-including-hyperemesis-gravidarum) |
| Zero to Finals | Nausea and vomiting in pregnancy | [Nausea and Vomiting in Pregnancy](https://zerotofinals.com/obgyn/earlypregnancy/hyperemesis/)  |
| BMJ BestPractice | Nausea andvomiting in pregnancy | [Nausea and Vomiting in Pregnancy](https://bestpractice.bmj.com/topics/en-gb/999?q=Hyperemesis%20gravidarum&c=suggested) |
| Geeky Medics | Obstetric History taking | [Obstetric History Taking](https://geekymedics.com/obstetric-history-taking/)  |
| Royal College of Obstetricians and Gynaecologists: Green-top Guideline No. 69 | The Management of Nausea and Vomiting of Pregnancy and Hyperemesis Gravidarum | [Green-top Guideline for Hyperemesis Gravidarum](https://www.rcog.org.uk/media/y3fen1x1/gtg69-hyperemesis.pdf) |
| Pregnancy Sickness support | The spectrum of pregnancy sickness | [What is Hyperemesis Gravidarum](https://www.pregnancysicknesssupport.org.uk/get-help/what-is-hyperemesis-gravidarum/) |
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| E-Learning |
| The following e-learning modules have been developed to aid understanding of the recognition and management of Hyperemesis Gravidarum. We recommend that PAs complete this e-learning as part of their CPD. Sign up via each of the e-learning hubs. |
| Source | Course Title | Link to E-Learning |
| E-Learning for Healthcare | Vomiting and Nausea  | [Vomiting and Nausea](https://portal.e-lfh.org.uk/Component/Details/396965)**Description**: This interactive scenario describes a case of a patient presenting with vomiting and nausea. As you progress through the scenario you will have the opportunity to apply your knowledge and skills to diagnose and treat this patient. Once you have specified a treatment plan, a simulation of the patient's responses over a period enables you to evaluate its success.**Average completion time**: 30 - 60 minutes |
| RCEM Learning | Hyperemesis | [Antiemetics in Pregnancy](https://www.rcemlearning.co.uk/foamed/december-2017/#1512042686531-183cab53-2f88)**Description**: This podcast goes through the definition and preferred choices of antiemetics in early pregnancy**Average completion time**: 5 minutes |
| RCEM Learning | Evaluating extreme emesis | [Evaluating Extreme Emesis](https://www.rcemlearning.co.uk/modules/evaluating-extreme-emesis/)**Description:** This single best answer exam covers a pregnant patient presenting with nausea and vomiting.**Average completion time:** 30 minutes |
| BMJ Learning | Ask an expert: Complications in pregnancy | [Complications in Pregnancy](https://new-learning.bmj.com/course/10063823)**Description**: This module helps you to gain confidence in the management of common medical problems in pregnancy including hyperemesis gravidarum.**Average completion time**: 1 hour |

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| Low Risk Chest Pain |
| Key Capabilities / Knowledge |
| 1. Diagnose or include low risk chest pain as a differential diagnosis
2. Demonstrate awareness of risk factors and red flags for chest pain
3. Ability to carry out a physical examination to exclude other causes of symptoms
4. Demonstrate ability to order and interpret appropriate investigations
5. Ability to develop an appropriate management plan
6. Take measures to avoid immediate deterioration and escalate appropriately
7. Ability to refer appropriately for management as required
8. Demonstrate awareness of further investigations and follow up as required
9. Ability to provide prevention advice to reduce risk factors for future chest pain
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| Online Source | Resource Title | Learning Link |
| The below are online resources to aid your understanding of low-risk chest pain Theyprovide an overview of the topic and information on the causes, presentation, diagnosis, and management of chest pain. As well as the current NICE guidelines. Please also consult your trust policy as this may vary across trusts. |
| NICE Clinical Knowledge Summaries | NICE CKS:Chest Pain | [Chest pain](https://cks.nice.org.uk/topics/chest-pain/) |
| Patient.info | Chest Pain | [Professional Articles: Chest Pain](https://patient.info/doctor/chest-pain-pro) |
| BMJ Best Practice | Assessment of chest pain | [Assessment of Chest Pain](https://bestpractice.bmj.com/topics/en-gb/301/differentials#diffCommon) |
| Geeky Medics | Taking a chest pain history | [Chest Pain History](https://geekymedics.com/chest-pain-history/) |
| Almost a Doctor | Chest pain | [Chest Pain](https://almostadoctor.co.uk/chest-pain) |
| E-Learning |
| The following E-Learning modules have been developed to aid understanding of therecognition and management of chest pain. We recommend that PAs complete this e- learning as part of their CPD. Sign up via each of the e-learning hubs. |
| Source | Course Title | Link to E-Learning |
| E-Learning for Healthcare | ACUMENChest pain 01 | [Chest Pain](https://portal.e-lfh.org.uk/Component/Details/396706)**Description:** These interactive scenarios describe cases of patients presenting with chest pain. As you progress through the scenarios you will have the opportunity to apply your knowledge and skills to diagnose and treat this patient. Once you have specified a treatment plan, a simulation of the patient's responses over a period of time enables you to evaluate its success.[Case 1](https://portal.e-lfh.org.uk/Component/Details/330650): A 55-year-old man presents to the ED with severe chest pain.[Case 2](https://portal.e-lfh.org.uk/Component/Details/388666): A 35-year-old man, visiting the UK from, presents to the ED with a 2 day history of central chest pain.[Case 3](https://portal.e-lfh.org.uk/Component/Details/347964): A 52-year-old presents to the ED with chest pain for the last few months.**Average completion time:** 30 minutes per case |
| RCEM Learning | Chest pain low risk rule out pathways | [Chest Pain Low Risk 'Rule Out' Pathways](https://www.rcemlearning.org/modules/chest-pain-low-risk-rule-out-pathways/)**Description**: This session addresses the clinical assessment and management of patients with low-risk chest pain, specifically the identification of patients with acute coronary syndrome.**Average completion time**: 1 hour |

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| Lower Limb Cellulitis |
| Key Capabilities / Knowledge |
| 1. Diagnose or include lower limb Cellulitis as a differential diagnosis
2. Demonstrate awareness of risk factors and red flags for Cellulitis
3. Ability to carry out a physical examination to exclude other causes of symptoms
4. Demonstrate ability to order and interpret appropriate investigations
5. Ability to develop an appropriate management plan
6. Take measures to avoid immediate deterioration and escalate appropriately
7. Ability to refer appropriately for management as required
8. Demonstrate awareness of further investigations and follow up as required
9. Ability to provide prevention advice to reduce risk factors for future cellulitis
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| Online Source | Resource Title | Learning Link |
| The below are online resources to aid your understanding of lower limb Cellulitis. Theyprovide an overview of the topic and information on the causes, presentation, diagnosis, and management of Cellulitis. As well as the current NICE guidelines. Please also consult your trust policy as this may vary across trusts. |
| NICE Clinical Knowledge Summaries | NICE CKS:Cellulitis – acute | [Acute Cellulitis](https://cks.nice.org.uk/topics/cellulitis-acute/) |
| Patient.info  | Cellulitis and Erysipelas | [Professional Articles: Cellulitis and Erysipelas](https://patient.info/doctor/cellulitis-and-erysipelas-pro) |
| Zero to Finals | Skin and Soft Tissue Infections | [Skin and Soft Tissue Infections](https://zerotofinals.com/medicine/infectiousdisease/cellulitis/) |
| BMJ BestPractice | Cellulitis andErysipelas | [Cellulitis and Erysipelas](https://bestpractice.bmj.com/topics/en-gb/3000172) |
| Geeky Medics | DermatologyOSCE guide | [Dermatological History Taking](https://geekymedics.com/dermatology-history-taking-osce-guide/) |
| Almost a Doctor | Cellulitis | [Cellulitis](https://almostadoctor.co.uk/encyclopedia/cellulitis) |
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| E-Learning |
| The following e-learning modules have been developed to aid understanding of therecognition and management of lower limb cellulitis. We recommend that PAs complete this e-learning as part of their CPD. Sign up via each of the e-learning hubs. |
| Source | Course Title | Link to E-Learning |
| E-Learning for Healthcare | 08\_01\_03\_01Cellulitis of the Lower Limb | [Cellulitis of the Lower Limb](https://portal.e-lfh.org.uk/Component/Details/475579)**Description:** This session lists the predisposing factors for cellulitis of the lower limb and identifies the organisms that are commonly involved. Later sections offer guidance on devising a treatment plan for patients with cellulitis of the lower limb.**Average completion time:** 30 minutes |
| E-Learning for Healthcare | 08\_01\_03\_01Cellulitis of the Lower Limb | [Cellulitis of the Lower Limb](https://portal.e-lfh.org.uk/Component/Details/475579)**Description:** This session lists the predisposing factors for cellulitis of the lower limb and identifies the organisms that are commonly involved. Later sections offer guidance on devising a treatment plan for patients with cellulitis of the lower limb.**Average completion time:** 30 minutes |
| E-Learning for Healthcare | EMD 01\_03\_13\_02 -Cellulitis and Other Skin Infections | [Cellulitis and Other Skin Infections](https://portal.e-lfh.org.uk/Component/Details/425600)**Description:** This session covers causes, clinical features, treatment and management of impetigo, cellulitis, erysipelas and necrotising fasciitis.**Average completion time:** 1 hour |
| RCEM Learning | Cellulitis and other skin infections | [Cellulitis and Other Skin Infections](https://www.rcemlearning.org/modules/cellulitis-) **Description**: This session explains the clinical differences in presentation of impetigo, cellulitis, erysipelas and necrotising fasciitis. Using clinical cases, it aims to enable clinicians to differentiate patients with life-threatening features from those who can be safely managed in the community.**Average completion time**: 1 hour |

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| Pulmonary Embolism |
| Key Capabilities / Knowledge |
| 1. Diagnose or include Pulmonary Embolism (PE) as a differential diagnosis
2. Demonstrate awareness of risk factors and red flags for PE

a. Cancer, Pregnancy, recent immobilisation, surgery within the last 12 weeks, long haul flights, thrombophilia, history of DVT or PE1. Ability to carry out a physical examination to exclude other causes of symptoms
2. Demonstrate awareness of using Wells score to assess the probability of PE
3. Demonstrate ability to order and interpret appropriate investigations
4. Ability to develop an appropriate management plan
5. Take measures to avoid immediate deterioration and escalate appropriately
6. Ability to refer appropriately for management as required
7. Demonstrate awareness of further investigations required for unprovoked PE
8. Ability to provide prevention advice to reduce risk factors for future PE
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|  |
| Online Source | Resource title | Learning Link |
| The below are online resources to aid your understanding of Pulmonary Embolism (PE). They provide an overview of the topic and information on the causes, presentation, diagnosis, and management of PE. As well as the current NICE guidelines. Please also consult your trust policy as this may vary across trusts. |
| NICE ClinicalKnowledge Summaries | NICE CKS:Pulmonary Embolism. | [Pulmonary Embolism](https://cks.nice.org.uk/topics/pulmonary-embolism/) |
| Patient.info  | Pulmonary Embolism | [Professional Articles: Pulmonary Embolism](https://patient.info/doctor/pulmonary-embolism-pro) |
| Zero to Finals | PulmonaryEmbolism | [Pulmonary Embolism](https://zerotofinals.com/medicine/respiratory/pe/) |
| Zero to Finals | PulmonaryEmbolisms in pregnancy | [Venous Thromboembolism in Pregnancy](https://zerotofinals.com/obgyn/antenatal/vte/) |
| BMJ Best Practice | Pulmonary Embolism | [Pulmonary Embolism](https://bestpractice.bmj.com/topics/en-gb/3000115) |
| Geeky Medics | Pulmonary Embolism, ABCDE approach | [Pulmonary Embolism Acute Management](https://geekymedics.com/pulmonary-embolism-pe-acute-management-abcde-approach/) |
| Almost a doctor | Pulmonary Embolism | [Pulmonary Embolism](https://almostadoctor.co.uk/encyclopedia/pulmonary-embolism-pe) |
| MDCalc | Wells Criteria for Pulmonary Embolism | [Wells Criteria for Pulmonary Embolism](https://www.mdcalc.com/calc/115/wells-criteria-pulmonary-embolism) |
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| E-Learning |
| The following e-learning modules have been developed to aid understanding of the recognition and management of PE. We recommend that PAs complete this e-learning as part of their CPD. Sign up via each of the e-learning hubs. |
| Source | Course Title | Link to E-Learning |
| E-Learning for Healthcare | Presenting features of pulmonary embolism | [Presenting Features of Pulmonary Embolism](https://portal.e-lfh.org.uk/Component/Details/441971)**Description:** PE is difficult to detect because patients present with a wide range of symptoms and signs. This module highlights the breadth of clinical presentations and which signs and symptoms are common in certain age groups.**Average completion time:** 10 minutes |
| E-Learning forHealthcare | 01\_012 Symptomsand signs of pulmonary embolism at initial presentation | [Symptoms and Signs of Pulmonary Embolism](https://portal.e-lfh.org.uk/Component/Details/441332)**Description:** This session highlights the wide range of clinical features that PE may cause.**Average completion time:** 10 minutes |
| E-Learning for Healthcare | 01\_030 Risk factors for pulmonary embolism | [Risk Factors for Pulmonary Embolism](https://portal.e-lfh.org.uk/LearningContent/Launch/441971)**Description:** This session explains the origins and utilisation of the modified Wells score for PE**Average completion time:** 10 minutes |
| E-Learning forHealthcare | Managingpulmonary embolism special circumstances | [Managing Pulmonary Embolism in Special Circumstances](https://portal.e-lfh.org.uk/Component/Details/305143)**Description:** This session discusses the management of PE in special circumstances including pregnancy, anaemia, thrombophilia, and malignancy.**Average completion time:** 30 minutes |
| E-Learning forHealthcare | 1a\_027 CardiacEffects of Acute Pulmonary Embolism | [Cardiac Effects of Acute Pulmonary Embolism](https://portal.e-lfh.org.uk/LearningContent/Launch/304339)**Description:** This session covers the physiological effects of PE on the heart and the technique and quality assurance of computed tomography pulmonary angiography (CTPA).**Average completion time:** 20 minutes |
| E-Learning for Healthcare | Diagnosis of Pulmonary Embolism | [Diagnosis of Pulmonary Embolism](https://portal.e-lfh.org.uk/Component/Details/305143)**Description:** This session is an overview of the diagnosis of PE.**Average completion time:** 40 minutes |
| E-Learning for Healthcare | Guidelines for the Management of Suspected Acute Pulmonary Embolism | [Management of Suspected Acute Pulmonary Embolism](https://portal.e-lfh.org.uk/Component/Details/305165)**Description:** This session introduces the British Thoracic Society guidelines for the diagnosis and management of suspected acute PE, which have been implemented by most UK institutions.**Average completion time:** 20 minutes |
| E-Learning for Healthcare | VTE Prevention | [Venous Thromboembolism Prevention](https://www.e-lfh.org.uk/programmes/venous-%20thromboembolism/)**Description**: These resources have been developed in partnership with the NHS England National VTE Prevention Programme. The e- learning sessions are aimed at nurses, pharmacists, and junior doctors to help them understand the concept of hospital-associated thrombosis and how to prevent it.**Average completion time**: 60-90 minutes |
| RCEM Learning | PulmonaryEmbolism | [Pulmonary Embolism](https://www.rcemlearning.co.uk/reference/pulmo)**Description**: This is a reading module covering the clinical assessment, investigation strategies, management and safety surrounding the diagnosis of PE.**Average completion time**: 45-60 minutes |

# Access to Regional Training Days

During the development of the SDEC PA Educational Resource Package, a discussion took place with the various Heads of Schools, and it was agreed that PAs may attend the following teaching events developed for doctors in training. This includes Foundation Teaching, Acute Care Common Stem Training Days, and Internal Medicine Regional Training Days.

Details of the training available and instructions on how to sign up are included below.

Please be mindful that PAs are employed to provide continuity of care to patients and must meet their clinical responsibilities. Therefore, it may not be possible for all PAs to attend teaching alongside doctors in training, due to staffing issues and PAs duty to provide clinical cover.

The priority for attendance is given to trainee doctors as it is a requirement of their training and the following courses have been developed to meet their training needs.

Additionally, where possible, it has been agreed that PAs may be granted access to online e-learning modules and recordings. Details of how to request access are included below.

This agreement is dependent on ongoing discussion and could be subject to change. We, therefore, encourage PAs to engage appropriately with the training materials. For example, only sign up to teaching that they can attend, ensure that they engage in teaching appropriate for the PA’s knowledge level, and respect that this teaching has been developed for the learning needs of trainee doctors.

## Foundation Teaching

The Foundation Programme aims to give doctors in training competence in basic clinical skills and management of acutely ill patients as well as developing other softer skill sets such as team working and communication.

Each NHS trust provided 30 hours of core training per year alongside additional training including simulation, prescribing courses, departmental teaching, and e-learning. Although there is a national core curriculum, each trust determines how they cover the required topics. It was agreed by the Foundation School Director that the Foundation teaching is appropriate for PAs to attend. Thus, please link in with your clinical supervisor and Medical Education Department to find out how to access the teaching for foundation year doctors.

The national resource for Foundation trainees is accessible on [E-learning for Health](http://portal.e-lfh.org.uk/Component/Details/686680).

## Internal Medicine Teaching

Internal Medicine Training (IMT) is the initial stage of training for those wishing to follow a career in medical specialties. IMT follows on from the completion of the foundation programme. IMT enables trainee doctors to become medical registrars and provides them with the skills needed to manage patients presenting with a wide range of medical symptoms and conditions.

After a discussion with the Head of the School of Medicine and Medical Specialties, it was agreed that PAs could join IMT teaching. To receive links to the teaching sessions and for up-to-date information, register for the WhatsApp group using the QR code below.



## Acute Care Common Stem Teaching

Acute Care Common Stem (ACCS) training is a broad-based training programme that equips trainee doctors wishing to enter Higher Specialty Training with the skills and competencies required to recognise and undertake initial management of the acutely unwell patient.

The ACCS curriculum provides a framework for training in four related acute specialties, including Emergency Medicine, Internal Medicine, Anaesthesia, and Intensive care medicine. After a discussion with the Head of the School for Emergency Medicine, it was agreed that PAs could join the ACCS Regional Training Days and have access to the online recordings via the London School of Emergency Medicine Catalogue on the NHS Learning Hub.

It seems the Core and ACCS training at an ST1 level would be most appropriate for PAs, with the scope to extend this to intermediate (ST3) and higher (ST4-ST6) training for senior PAs, pending further discussion and agreement from key decision makers.

To access the NHS Learning Hub, you will need [to create an account and request access](https://learninghub.nhs.uk/Catalogue/londonem).

# Demonstrating your learning

The FPA considers ongoing education and training as vital in maintaining the professional standards of PAs and delivering high-quality healthcare. Throughout the PA’s career, they will undertake Continued Professional Development (CPD), and it is essential that a PA is able to demonstrate that they have undertaken sufficient learning to support their practice.

To maintain registration on the Physician Associate Managed Voluntary Register (PAMVR) all PAs must complete 50 hours of CPD per year. It is also recommended that PAs use a portfolio to collect and document this evidence, which may be used for appraisal purposes and to demonstrate competency to clinical supervisors or future employers.

The FPA has offered guidance on the suggested contents of a PA portfolio which provides an opportunity to reflect on your work and demonstrate your acquired skills and knowledge. As such, the FPA has produced template documents which they recommend form part of the PA portfolio. This includes Case-based Discussions, Clinical Evaluation Exercises and Direct observation of procedural skills.

The FPA suggest that PAs complete a minimum of 10 work-based assessments per year, with even distribution. These work-based assessments should be signed off by a doctor working at registrar level or above.

NHSE would recommend that PAs working in SDEC, with support from their clinical supervisor, complete a case-based discussion or mini-clinical examination exercise for each clinical condition included in this document. This can be used to demonstrate the PA’s development.

The relevant templates have been included below.

## Case Based Discussion

[Faculty of Physician Associates Case-Based Discussion Template](https://www.fparcp.co.uk/file/media/617bb18692cd5_Protected_version_-_case-based_discussions_assessment_form.docx)

Case-based discussion is designed to evaluate PAs clinical practice, decision-making and the interpretation and application of evidence by reviewing their record of practice. Its primary purpose is to enable a conversation between the PA and assessor about the presentation and management of a patient. It is not intended as a test of knowledge nor as an oral or clinical examination. It is intended to assess the clinical decision-making process and how the PA used medical knowledge when managing a single case. The evaluation should be according to the PA’s level of experience. (Definition from the FPA)

## Clinical Evaluation Exercise (Mini-CEX)

[Faculty of Physician Associates Mini-Clinical Evaluation Exercise Template](https://www.fparcp.co.uk/download-handler/?mid=55&lid=1)

The clinical evaluation exercise is designed to evaluate a PA’s clinical practice, decision-making and the interpretation and application of evidence by directly observing the PA’s practice. Its primary purpose is to observe the PA during a clinical encounter. Then, a discussion takes place between the observer and the PA with regard to the management of a patient and feedback is given. The evaluation should be according to the PA’s level of experience. (Definition from the FPA)

## Direct Observation of Procedural Skills

[Faculty of Physician Associates Direct Observation of Procedural Skills Template](https://www.fparcp.co.uk/download-handler/?mid=53&lid=1)

Direct observation of procedural skills (DOPS) is used for assessing competence in the practical procedures that Pas undertake. The assessments should be made by different assessors and cover a wide range of procedures relevant to the practice and work setting of the PA. (Definition from the FPA)

## SBAR Communication Tool

SBAR is a structured communication tool which can be used to accurately share focused information between healthcare individuals. SBAR stands for ‘Situation’, ‘Background’, ‘Assessment’, and ‘Recommendations’. The SBAR communication tool has been shown to reduce errors in information sharing and improve patient safety.

NHSE would recommend that a PA working in SDEC is supported by their clinical supervisors to increase their confidence in using the SBAR framework for clinical handover.

The following resources provide further information on the [SBAR Communication Tool](https://portal.e-lfh.org.uk/Component/Details/668615)

## Example Work Based Assessment Record

|  |  |
| --- | --- |
| **Physician associate** |  |
| **Physician Associate Managed Voluntary Register (PAMVR) number** |  |

|  |  |  |
| --- | --- | --- |
|  | **Case Based Discussion** | **Clinical Evaluation Exercise** |
| **Condition** | **Date and setting of assessment** | **Assessor name and job title** | **Date and setting of assessment** | **Assessor name and job title** |
| **Pyelonephritis** |  |  |  |  |
| **Abscess** |  |  |  |  |
| **Acute Kidney Injury** |  |  |  |  |
| **Atrial Fibrillation** |  |  |  |  |
| **Deep Vein Thrombosis** |  |  |  |  |
| **Falls in People Aged ≥ 65** |  |  |  |  |
| **Hyperemesis Gravidarum** |  |  |  |  |
| **Low Risk Chest Pain** |  |  |  |  |
| **Lower Limb Cellulitis** |  |  |  |  |
| **Pulmonary Embolism** |  |  |  |  |

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