

Anticoagulant Therapy

Resource to Support:

- Patient Safety Alert 18: Actions that can make anticoagulant therapy safer
- Revised in 2018 to include DOACs

Introduction and Scope

- This resource is an update of the resource produced by the Medicines Use and Safety Team of NHS Specialist Pharmacy Service in 2010. The aim of the resource is to support NHS organisations and practitioners from all sectors of care in implementing medication-related requirements published in Patient Safety Alert NPSA/2007/18: Actions that can make anticoagulation therapy safer. Many of the items cited in the resource are a collation of information provided by colleagues who have implemented the alert.
- This alert was published by the National Patient Safety Agency in 2007. The roles and responsibilities of the national patient safety team have moved from the NPSA and are now part of NHS Improvement. More information can be found at <https://improvement.nhs.uk/improvement-hub/patient-safety/>
- This version has been updated so that the associated documentation from the 2007 alert is provided in Appendix 2. Although the alert does not make specific recommendations relating to Direct Oral Anticoagulants (DOACs) steps have been taken to include information on DOACs and relate this to recommendations made in the alert.
- The resource will be routinely updated to incorporate new information. If you have any comments or examples of implementation that you would like to share as a part of a future update, please send these to LNWH-tr.MUS-SpecialistPharmacyService@nhs.net

Search strategy

This resource was compiled using;

- Information available via the NPSA web-site: <http://www.nrls.npsa.nhs.uk/>
- Information from other known web-based sources NHS Evidence (<https://www.evidence.nhs.uk/nhs-evidence-content/medicines-information>),
- East and South East Specialist Pharmacy Services – now Medicines Use and Safety Team at NHS Specialist Pharmacy Service (www.sps.nhs.uk);
- Collation of feedback from specific requests to original contributors (acute trusts and CCGs across London, East and South East England) and requests to all Medicines Safety Officers across England and consultant pharmacists and pharmacists working in anticoagulation services via UKCPA HAT group.

How to use this resource to implement NPSA alert number 18: Actions that can make anticoagulant (AC) therapy safer

- Patient Safety Alert number 18: Actions that can make anticoagulant therapy safer and supporting documents can be found by looking on the archived NPSA website at <http://www.nrls.npsa.nhs.uk>. A summary of the content of the alert is given in Appendix 1 and all the documents are listed in Appendix 2 with links to them on the Specialist Pharmacy Service website at <https://www.sps.nhs.uk>.
- The resource summarises the actions with information on how different organisations have implemented that particular action. The information to support implementation is divided into these sections as per the alert and each section is sub-divided into information from mental health, primary care and secondary care organisations for vitamin K antagonists and DOACs. Please note this resource does not include any information on injectable anticoagulants.

Recommendation 1	Ensure all staff caring for patients on anticoagulant therapy have the necessary work competencies. Vitamin K antagonists Direct Oral Anticoagulants
Recommendation 2	Review and update procedures and protocols to ensure they reflect safe practice and that staff are trained to implement them. Vitamin K antagonists Direct Oral Anticoagulants
Recommendation 3	Audit anticoagulant services using British Society for Haematology/National Patient Safety Agency safety indicators as part of the annual medicines management audit programme. Vitamin K antagonists Direct Oral Anticoagulants
Recommendation 4	Ensure patients receive appropriate verbal and written information especially on initiation of anticoagulation and hospital discharge. Vitamin K antagonists Direct Oral Anticoagulants
Recommendation 5	Promote safe practice with prescribers and pharmacists to check that patients' INR is being monitored regularly and that the INR level is safe before issuing or dispensing prescriptions. Vitamin K antagonists Direct Oral Anticoagulants (INR monitoring is not applicable for DOACs, however we have included practice examples of other monitoring required for DOAC therapy).

Recommendation 6	Promote safe practice for prescribers co-prescribing one or more clinically significant interacting medicines. Vitamin K antagonists Direct Oral Anticoagulants
Recommendation 7	Ensure dental practitioners manage patients according to evidence based medicine. Vitamin K antagonists Direct Oral Anticoagulants
Recommendation 8	Amend procedures to standardise the range of anticoagulant products used Vitamin K antagonists Direct Oral Anticoagulants
Recommendation 9	Promote the use of safe practice procedures for the administration of anticoagulants in social care settings Vitamin K antagonists Direct Oral Anticoagulants
Additional resources	<ul style="list-style-type: none"> • Anticoagulant medication and ophthalmic surgery • Protocol for management of haemorrhage with DOACs • Creatinine clearance guidance for DOACs

The references and examples are numbered to allow cross referencing where resources may provide information that covers more than one of the sections above.

Disclaimer: *Web-site addresses given in this document were correct at time of writing. If you find the links no longer work, we suggest you attempt accessing the Home page of the site and searching from there. Although the contents have been examined for relevance, inclusion of a reference or its source does not necessarily guarantee the quality and accuracy of its content. Users of this resource will need to satisfy themselves that use of the reference is appropriate for their purposes*

Acknowledgements –

This resource would not have been possible without the contribution from NHS pharmacy teams the country. We would like to express our thanks to those that have kindly agreed to share their work with us. We would especially like to thank the UKCPA Haematology and Thrombosis group for giving us access to information and publications

Recommendation 1		Ensure all staff caring for patients on anticoagulant therapy have the necessary work competencies		
Vitamin K antagonists				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
1MV				
Mental Health Trusts				
1M.1.1.V	Sussex Partnership NHS Foundation Trust	Since AC use is infrequent ward managers are responsible for getting staff to read the AC guidelines when there is a patient needing ACs.	https://www.sussexpartnership.nhs.uk/sites/default/files/documents/anticoagulant_guidelines-ver4-1015-final_0.pdf	Ray.Lyon@sussexpartnership.nhs.uk
1M.1.2.V	North East London NHS Foundation Trust	Training and competencies listed within Section 13 (on page 15) of the draft guideline.	Anticoagulant Guidance final version updated with mg and units.	Heather.Walker@nelft.nhs.uk
1PV				
Primary Care				
1P.1.1.V	Surrey Downs CCG	Training and competencies listed within Section 5 (on page 8) of the guideline.	Primary Care Anticoagulation Monitoring Service Guidelines (Warfarin and VIT K Antagonists)	lizclark2@nhs.net
1SV				
Secondary Care				
1S.1.1.V	Queen Victoria Hospital NHS Foundation Trust	In the section entitled training and awareness the issue of prescribers/pharmacists competencies is addressed by requiring them, within 2 weeks of joining the trust to provide evidence of having completed specified two BMJ e-learning modules. Evidence to be submitted to lead clinician or clinical director. Training requirements for nurses are also specified.	Anticoagulant policy final Aug 15	Judy.busby@qvh.nhs.uk

Recommendation 1		Ensure all staff caring for patients on anticoagulant therapy have the necessary work competencies		
<u>Direct Oral Anticoagulants</u>				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
1MD		Mental Health Trusts		
1M.1.1.D	Sussex Partnership NHS Foundation Trust	Since AC use is infrequent ward managers are responsible for getting staff to read the AC guidelines when there is a patient needing ACs.	https://www.sussexpartnership.nhs.uk/sites/default/files/documents/anticoagulant_guidelines-ver4-1015-final_0.pdf	Ray.Lyon@sussexpartnership.nhs.uk
1M.1.2.D	North East London NHS Foundation Trust	Training and competencies listed within Section 13 (on page 15) of the draft guideline.	Anticoagulant Guidance final version updated with mg and units.	Heather.Walker@nelft.nhs.uk
1PD		Primary Care		
1P.1.1.D	Surrey Downs CCG	Training and competencies listed within Section 5 (on page 8) of the guideline.	Primary Care Anticoagulation Monitoring Service Guidelines (Warfarin and VIT K Antagonists)	lizclark2@nhs.net
1SD		Secondary Care		
1S.1.1.D	Queen Victoria Hospital NHS Foundation Trust	In the section entitled training and awareness the issue of prescribers/pharmacists competencies is addressed by requiring them, within 2 weeks of joining the trust to provide evidence of having completed specified two BMJ e-learning modules. Evidence to be submitted to lead clinician or clinical director. Training requirements for nurses are also specified.	Anticoagulant policy final Aug 15	Judy.busby@qvh.nhs.uk
1S.1.2.D	Dartford and Gravesham NHS Trust	Training requirements listed for nurse, doctors and pharmacists on page 13.	Protocol for appropriate prescribing of DOACs and management of haemorrhage and surgical patients.	Juliascott1@nhs.net

Recommendation 2		Review and update procedures and protocols to ensure they reflect safe practice and that staff are trained to implement them		
<u>Vitamin K antagonists</u>				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
2MV	Mental Health Trusts			
2M.1.1.V	North East London NHS Foundation Trust	1. Duration of warfarin therapy and target INR 2. Guidance on mechanical heart valves 3. Initiation of warfarin	1. Appendix 1 2. Appendix 2 3. Appendix 3	Heather.Walker@nelft.nhs.uk
2M.1.2.V	Sussex Partnership NHS Foundation Trust	Supplementary Drug chart for warfarin	https://www.sussexpartnership.nhs.uk/sites/default/files/documents/anticoagulant_chart_with_ciwa_on_reverse_-_jul_08.pdf	ray.lyon@sussexpartnership.nhs.uk
2M.1.3.V	Sussex Partnership NHS Foundation Trust	Guidelines for the prescribing, administration and monitoring of Vitamin K antagonist oral anticoagulant therapy on inpatient units (page 3)	https://www.sussexpartnership.nhs.uk/sites/default/files/documents/anticoagulant_guidelines_-_ver4_-_1015_-_final_0.pdf	ray.lyon@sussexpartnership.nhs.uk
2M.1.4.V	Sussex Partnership NHS Foundation Trust	Anticoagulation duration and target INR range when using Vitamin KAntagonists (VKAs) for common indications (page 12).	https://www.sussexpartnership.nhs.uk/sites/default/files/documents/anticoagulant_guidelines_-_ver4_-_1015_-_final_0.pdf	ray.lyon@sussexpartnership.nhs.uk
2PV	Primary Care			
2P.1.1.V	Surrey Downs CCG	A comprehensive draft AC guideline produced in liaison with local hospitals. States doctors, nurses and pharmacists responsibilities.	PCN Anticoagulant monitoring service guideline 2017 update	lizclark2@nhs.net

2SV	Secondary Care			
2S.1.1.V	Dartford and Gravesham NHS Trust	Comprehensive policy with FAQ document.	Management of patients on warfarin and other coumarin anticoagulants guideline	Juliascott1@nhs.net
2S.1.2.V	Queen Victoria Hospital NHS Foundation Trust	Comprehensive policy: If interacting drugs are prescribed the doctor is responsible for checking INR & in outpatient setting for telling patient to have INR checked in 4-7days and informing their AC clinic of the interacting drug.	Anticoagulant policy final Aug 15	Judy.busby@qvh.nhs.uk
2S.1.3.V	Oxford University Hospitals NHS Foundation Trust	Anticoagulation protocol with guidance on dual antiplatelet therapy with vitamin K antagonists.	Anticoagulant protocols	Victoria.price@ouh.nhs.uk
2S.1.4.V	Barts Health NHS Trust	Standards state systematically what clinical pharmacists need to do on a day to day basis for in-patients.	Standards managing anticoagulation therapy 2016	jagot.chahal1@nhs.net
2S.1.5.V	Wirral University Teaching Hospital NHS Foundation Trust	Anticoagulation protocol with guidance on discharging patients	Oral anticoagulant oral guidelines for prescribing, monitoring and management.	lizzy.caulfield@nhs.net
2S.1.6.V	King's Thrombosis Centre	Comprehensive chart – includes a section for antiplatelets.	http://www.kingsthrombosiscentre.org.uk/index.php/anticoagulation/anticoagulation-guidelines	King's Thrombosis Centre

Recommendation 2		Review and update procedures and protocols to ensure they reflect safe practice and that staff are trained to implement them		
Direct Oral Anticoagulants				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
2MD	Mental Health Trusts			
2M.1.1.D	North East London NHS Foundation Trust	DOAC prescribing and shared care guidelines.	1. Appendix 8 DOACs Prescribing information and shared care 2. Appendix D DOACs	Heather.Walker@nelft.nhs.uk
2M.1.2.D	Sussex Partnership NHS Foundation Trust	Guidelines for the prescribing, administration and monitoring of newer oral anticoagulant (NOACs) therapy on inpatient (page 5)	https://www.sussexpartnership.nhs.uk/sites/default/files/documents/anticoagulant_guidelines-ver4-1015-final_0.pdf	ray.lyon@sussexpartnership.nhs.uk
2PD	Primary Care			
2P.1.1.D	Surrey Downs CCG	A comprehensive draft AC guideline produced in liaison with local hospitals – DOAC section page 24.	PCN Anticoagulant monitoring service guideline 2017 update	lizclark2@nhs.net
2SD	Secondary Care			
2S.1.1.D	Dartford and Gravesham NHS Trust	DOAC prescribing, management of peri-operative patients and switching agents.	Protocol for appropriate prescribing of DOACs and management of haemorrhage and surgical patients	Juliascott1@nhs.net
2S.1.2.D	Queen Victoria Hospital NHS Foundation Trust	Comprehensive policy: If interacting drugs are prescribed the doctor is responsible for checking INR & in outpatient setting for telling patient to have INR checked in 4-7days and informing their AC clinic of the interacting drug	Anticoagulant policy final Aug 15	Judy.busby@gvh.nhs.uk
2S.1.3.D	Barts Health NHS Trust	Standards state systematically what clinical pharmacists need to do on a day to day basis for in-patients.	Standards managing anticoagulation therapy 2016	jagjot.chahal1@nhs.net
2S.1.4.D	Wirral University Teaching Hospital NHS Foundation Trust	Anticoagulation protocol with guidance on discharging patients	Oral anticoagulant oral guidelines for prescribing, monitoring and management.	lizzy.caulfield@nhs.net
2S.1.5.D	Buckinghamshire Healthcare NHS Trust	Factors to be taken into account when choosing a NOAC for AF	https://www.sps.nhs.uk/articles/supporting-documents-for-npsa-alert-18-sps-anticoagulant-resource-buckinghamshire-healthcare/	Satinder.bhandal1@nhs.net

Recommendation 3		Audit anticoagulant services using BSH/NPSA safety indicators as part of the annual medicines management audit programme		
<u>Vitamin K antagonists</u>				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
3MV	Mental Health Trusts			
	No documents available	No documents available	No documents available	No documents available
3PV	Primary Care			
3P.1.1.V	Surrey Downs CCG	Page 26 covers evaluation of the service by the CCG.	PCN Anticoagulant monitoring service guideline 2017 update.	lizclark2@nhs.net
3P.1.2.V	<ul style="list-style-type: none"> Imperial College Healthcare NHS Trust Buckinghamshire Healthcare Trust Central London Community Health Services Charing Practice, Kent Runnymede Medical Practice, East Berkshire 	Evaluation of warfarin management by pharmacist prescribers in primary care settings	https://www.sps.nhs.uk/wp-content/uploads/2016/01/Poster_Winner20UKCPA_GHP20conference_Anticoag.pdf	NHS Specialist Pharmacy Service
3SV	Secondary Care			
3S.1.1.V	The Whittington Hospital NHS Trust	An evaluation of treatments of stable patients attending pharmacist-managed community-based anticoagulation clinic.	Time in range abstract	helen.taylor@whittington.nhs.uk
3S.1.2.V	The Whittington Hospital NHS Trust	Are warfarin patients with atrial fibrillation reviewed using the CHADS2 score?	CHADS2 abstract	helen.taylor@whittington.nhs.uk
3S.1.3.V	Oxford University Hospitals NHS Foundation Trust	An audit to investigate the origin of and contributing factors to INRs greater than or equal to 5.0.	CLOT poster	Victoria.price@ouh.nhs.uk
3S.1.4.V	Southampton University Hospitals NHS Foundation Trust	Audit on warfarin timing and missed doses – default time of administration is 2pm rather than 6 pm. More doses are written by the team looking after the patient.	https://www.sps.nhs.uk/articles/suporting-documents-for-npsa-alert-18-sps-anticoagulant-resource-southampton/	sue.ladds@uhs.nhs.uk Andy.Fox@uhs.nhs.uk

Recommendation 3		Audit anticoagulant services using British Society for Haematology (BSH) /National Patient Safety Agency (NPSA) safety indicators as part of the annual medicines management audit programme		
Direct Oral Anticoagulants				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
3MD	Mental Health Trusts			
	No documents available	No documents available	No documents available	No documents available
3PD	Primary Care			
	No documents available	No documents available	No documents available	No documents available
3SD	Secondary Care			
	No documents available	No documents available	No documents available	No documents available

Recommendation 4		Ensure patients receive appropriate verbal and written information especially on initiation of anticoagulation and hospital discharge		
<u>Vitamin K antagonists</u>				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
4MV	Mental Health Trusts			
4M.1.1.V	North East London NHS Foundation Trust	Guidance on counselling of warfarin for all healthcare professionals.	Appendix 7	Heather.Walker@nelft.nhs.uk
4PV	Primary Care			
4P.1.1.V	Surrey Downs CCG	Page 13 covers patient education and appendix 3 contains a counselling checklist.	PCN Anticoagulant monitoring service guideline 2017 update	lizclark2@nhs.net
4SV	Secondary Care			
4S.1.1.V	Dartford and Gravesham NHS Trust	Discharge form contains counselling tick list.	Discharge counselling checklist	Juliascott1@nhs.net
4S.1.2.V	Queen Victoria Hospital NHS Foundation Trust	Counselling and actions to be taken to ensure safe anticoagulants for inpatients and at discharge by pharmacists (see Appendix 2).	Anticoagulant policy final Aug'15	Judy.busby@qvh.nhs.uk
4CV	All care settings			
4C.1.1.V	NHS Specialist Pharmacy Service	These resources are designed to support all clinicians who communicate with patients prescribed warfarin. The resources may be especially useful for those patients with reduced cognition or those who have aphasia. They are presented in the form of PowerPoint slides, which can be used together or individually, in hard copy or electronically, to support conversations with patients about safe use of oral anticoagulants.	https://www.sps.nhs.uk/wp-content/uploads/2015/08/Warfarin-aphasia-16-01-2017-2.pdf	Nina Barnett at NHS Specialist Pharmacy Service
4C.1.2.V	South London Cardiovascular Medicines Working Group	Use of a single anticoagulant patient safety card across South London.	Single anticoagulant card	helen.williams11@nhs.net
4C.1.3.V	Wessex Academic Health Science Network	'Starting anticoagulation with Jack' includes a series of short videos and patient information leaflets to explain about clotting and why abnormal clots can form as people age and the different types of anticoagulants available for treatment.	http://wessexahsn.org.uk/projects/145/starting-anticoagulation-with-jack	Wessex Academic Health Sciences Network

Recommendation 4		Ensure patients receive appropriate verbal and written information especially on initiation of anticoagulation and hospital discharge		
Direct Oral Anticoagulants				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
4MD	Mental Health Trusts			
4M.1.1.D	North East London NHS Foundation Trust	Example of DOAC alert card	Appendix 9.	Heather.Walker@nelft.nhs.uk
4PD	Primary Care			
	No documents available	No documents available	No documents available	No documents available
4SD	Secondary Care			
4S.1.1.D	Buckinghamshire Healthcare NHS Trust	NOAC clinic follow up checklist	https://www.sps.nhs.uk/articles/supporting-documents-for-npsa-alert-18-sps-anticoagulant-resource-buckinghamshire-healthcare/	Satinder.bhandal1@nhs.net
4CD	All care settings			
4C.1.1.D	Northern England Strategic Clinical Networks	NOAC alert card	http://www.necn.nhs.uk/wp-content/uploads/2015/02/NOAC-Alert-Card-Initiative1.pdf	Northern England Strategic Clinical Networks
4C.1.2.D	NHS Specialist Pharmacy Service	These resources are designed to support all clinicians who communicate with patients prescribed direct oral anticoagulants (DOACs). The resources may be especially useful for those patients with reduced cognition or those who have aphasia. They are presented in the form of PowerPoint slides, which can be used together or individually, in hard copy or electronically, to support conversations with patients about safe use of oral anticoagulants.	https://www.sps.nhs.uk/articles/warfarin-consultation-for-patients-with-aphasia/	Nina Barnett at NHS Specialist Pharmacy Service
4C.1.3.D	South London Cardiovascular Medicines Working Group	Use of a single anticoagulant patient safety card across South London.	Single anticoagulant card	helen.williams11@nhs.net
4C.1.4.D	Wessex Academic Health Science Network	'Starting anticoagulation with Jack' includes a series of short videos and patient information leaflets to explain about clotting and why abnormal clots can form as people age and the different types of anticoagulants available for treatment.	http://wessexahsn.org.uk/projects/145/starting-anticoagulation-with-jack	Wessex Academic Health Sciences Network

Recommendation 5		Promote safe practice with prescribers and pharmacists to check that patients' INR is being monitored regularly and that the INR level is safe before issuing or dispensing prescriptions		
<u>Vitamin K antagonists</u>				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
5MV	Mental Health Trusts			
	No documents available	No documents available	No documents available	No documents available
5PV	Primary Care			
	No documents	No documents available	No documents available	No documents available
5SV	Secondary Care			
5S.1.1.V	Dartford and Gravesham NHS Trust	Copy of anticoagulation prescription chart for in-patients, out-patients & day cases to be completed before dispensing (pages 24 and 25).	DVH Drug Chart	Juliascott1@nhs.net
5S.1.2.V	Queen Victoria Hospital NHS Foundation Trust	Standards for pharmacists state ensure INR being checked and dosing appropriate.	Anticoagulant policy final Aug'15	Judy.busby@qvh.nhs.uk
Recommendation 5		Promote safe practice with prescribers and pharmacists to check that patients' INR is being monitored regularly and that the INR level is safe before issuing or dispensing prescriptions		
<u>Direct Oral Anticoagulants</u>				
(INR monitoring is not applicable for DOACs, however we have included practice examples of other monitoring required for DOAC therapy).				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
5MD	Mental Health Trusts			
	No documents available	No documents available	No documents available	No documents available
5PD	Primary Care			
	No documents available	No documents available	No documents available	No documents available
5SD	Secondary Care			
5.S.1.1.D	Wirral University Teaching Hospital NHS Foundation Trust	Anticoagulation protocol with guidance on monitoring and dose adjusting NOACs.	Oral anticoagulant oral guidelines for prescribing, monitoring and management.	lizzy.caulfield@nhs.net

Recommendation 6		Promote safe practice for prescribers co-prescribing one or more clinically significant interacting medicines		
Vitamin K antagonists				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
6MV	Mental Health Trusts			
6M.1.1.V	Sussex Partnership NHS Foundation Trust	Appendix 3 of the guideline gives advice to doctors on being aware of significant interactions and actions to take on checking INR.	https://www.sussexpartnership.nhs.uk/sites/default/files/documents/anticoagulant_guidelines-ver4-1015-final_0.pdf	ray.lyon@sussexpartnership.nhs.uk
6PV	Primary Care			
6P.1.1.V	Surrey Downs CCG	Appendix 6 covers significant interactions and actions to take on checking INR.	PCN Anticoagulant monitoring service guideline 2017 update	lizclark2@nhs.net
6SV	Secondary Care			
6S.1.1.V	Dartford and Gravesham NHS Trust	Action plan recommends interacting medications are documented in yellow book for those patients who are already on warfarin.	Management of patients on warfarin and other coumarin anticoagulants guideline	Juliascott1@nhs.net
6S.1.2.V	Queen Victoria Hospital NHS Foundation Trust	Recommends if interacting drugs are prescribed it is the responsibility of prescriber to monitor INR & in outpatient setting, to inform patient to have INR checked in 4-7 days & to provide details of this change in therapy to their AC clinic.	Anticoagulant policy final Aug'15	Judy.busby@qvh.nhs.uk
Recommendation 6		Promote safe practice for prescribers co-prescribing one or more clinically significant interacting medicines		
Direct Oral Anticoagulants				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
6MD	Mental Health Trusts			
	No documents available	No documents available	No documents available	No documents available
6PD	Primary Care			
	No documents available	No documents available	No documents available	No documents available
6SD	Secondary Care			
6S.1.1.D	Dartford and Gravesham NHS Trust	DOAC interactions.	Protocol for appropriate prescribing of DOACs and management of haemorrhage and surgical patients	Juliascott1@nhs.net
6S.1.2.D	Barts Health NHS Trust	Guidance on selecting appropriate NOAC	Guideline on selecting NOACs	jagjot.chahal1@nhs.net

Recommendation 7		Ensure dental practitioners manage patients according to evidence based medicine		
<u>Vitamin K antagonists</u>				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
7MV	Mental Health Trusts			
	No documents available	No documents available	No documents available	No documents available
7PV	Primary Care			
7P.1.1.V	Surrey Downs CCG	Page 23 - information for dentists.	PCN Anticoagulant monitoring service guideline 2017 update	lizclark2@nhs.net
7SV	Secondary Care			
7S.1.1.V	Queen Victoria Hospital NHS Foundation Trust	Guidance on anticoagulants with dental surgery	Anticoagulant policy final Aug 15	Judy.busby@qvh.nhs.uk
7S.1.1.V	Oxford University Hospital NHS Foundation Trust	Guidance on vitamin K antagonists with dental surgery	Oxford Haemophilia and Thrombosis Centre protocols for outpatient oral anticoagulation with Vitamin K antagonists	Victoria.Price@ouh.nhs.uk
7CV	All care settings			
7C.1.1.V	Scottish Dental Clinical Effectiveness Programme	Management of Dental Patients Taking Anticoagulants	Dental Clinical Guidance	
Recommendation 7		Ensure dental practitioners manage patients according to evidence based medicine		
<u>Direct Oral Anticoagulants</u>				
7MV	Mental Health Trusts			
7M.1.1.D	Sussex Partnership NHS Foundation Trust	Advice on what to do if patients on anticoagulants need dental treatment (page 10)	https://www.sussexpartnership.nhs.uk/sites/default/files/documents/anticoagulant_guidelines-ver4-1015-final_0.pdf	ray.lyon@sussexpartnership.nhs.uk
7PV	Primary Care			
	No documents available	No documents available	No documents available	No documents available
7SV	Secondary Care			
	No documents available	No documents available	No documents available	No documents available
7CD	All care settings			
7C.1.1.D	Scottish Dental Clinical Effectiveness Programme	Management of Dental Patients Taking Anticoagulants	Dental Clinical Guidance	

Recommendation 8		Amend procedures to standardise the range of anticoagulant products used		
<u>Vitamin K antagonists</u>				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
8MV	Mental Health Trusts			
	No documents available	No documents available	No documents available	No documents available
8PV	Primary Care			
	No documents available	No documents available	No documents available	No documents available
8SV	Secondary Care			
8S.1.1.V	Queen Victoria Hospital NHS Foundation Trust	Avoid dispensing 5mg strength warfarin tablets – see Appendix 4 on supply of warfarin to patients.	Anticoagulant policy final Aug 15	Judy.busby@qvh.nhs.uk
Recommendation 8		Amend procedures to standardise the range of anticoagulant products used		
<u>Direct Oral Anticoagulants</u>				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
8MD	Mental Health Trusts			
	No documents available	No documents available	No documents available	No documents available
8PD	Primary Care			
	No documents available	No documents available	No documents available	No documents available
8SD	Secondary Care			
8S.1.1.D	Barts Health NHS Trust	Guidance on selecting appropriate NOAC	Guideline on selecting NOACs	jagjot.chahal1@nhs.net

Recommendation 9		Promote the use of safe practice procedures for the administration of anticoagulants in social care settings			
<u>Vitamin K antagonists</u>					
SPS Ref No	Organisation	Details	Where to find it	Who to contact	
9MV	Mental Health Trusts				
	No documents available	No documents available	No documents available	No documents available	
9PV	Primary Care				
9P.1.1.V	Surrey Downs CCG	Page 22 - information for social care settings.	PCN Anticoagulant monitoring service guideline 2017 update	lizclark2@nhs.net	
9P.1.2.V	London Clinical Networks	Pan London guidance on delivering self-monitoring of INR in clinical practice. Document includes criteria for selecting patients and training.	Pan London Framework for adult patients self-monitoring INR.	helen.williams11@nhs.net	
9SV	Secondary Care				
	No documents available	No documents available	No documents available	No documents available	
Recommendation 9		Promote the use of safe practice procedures for the administration of anticoagulants in social care settings			
<u>Direct Oral Anticoagulants</u>					
SPS Ref No	Organisation	Details	Where to find it	Who to contact	
9MD	Mental Health Trusts				
	No documents available	No documents available	No documents available	No documents available	
9PD	Primary Care				
	No documents available	No documents available	No documents available	No documents available	
9SD	Secondary Care				
	No documents available	No documents available	No documents available	No documents available	

Additional Resources

Vitamin K antagonists

SPS Ref No	Organisation	Details	Where to find it	Who to contact
A1.1.V	Royal College of Ophthalmologists	Guidance on anticoagulant medication and cataract surgery	Cataract surgery guidelines	contact@rcophth.ac.uk
A1.2.V	Royal College of Anaesthetics and Royal College of Ophthalmologists	Joint guidance on anticoagulant medication and ophthalmic surgery	Local anaesthesia for ophthalmic surgery	contact@rcophth.ac.uk
A1.3.V	South London Cardiac and Stoke network	Commissioners and providers should use this list to benchmark current services to identify gaps in service provision.	Checklist for delivering excellence in anticoagulant care	helen.williams11@nhs.net

Additional Resources				
Direct Oral Anticoagulants				
SPS Ref No	Organisation	Details	Where to find it	Who to contact
A1.1.D	South London Cardiac and Stoke network	Briefing paper on a standardising the method of renal function estimation to prevent inappropriate dosing and/ or minimise adverse effects of DOACs	Briefing paper for standardising method of estimating renal function	helen.williams11@nhs.net
A1.2.D	South London Cardiac and Stoke network	Guidance on using a standardised method to estimate renal function with details of using a smartphone app in DOACs.	Creatinine clearance guidance for DOACs	helen.williams11@nhs.net
A1.3.D	King's Thrombosis Centre	Protocol for management of haemorrhage for patients on apixaban therapy.	http://www.kingsthrombosiscentre.org.uk/index.php/anticoagulation/anticoagulation-guidelines	King's Thrombosis Centre
A1.4.D	King's Thrombosis Centre	Protocol for management of haemorrhage for patients on dabigatran therapy.		
A1.5.D	King's Thrombosis Centre	Protocol for management of haemorrhage for patients on rivaroxaban therapy.		
A1.6.D	Oxford AHSN	Oxford University Hospitals NHS Foundations Trust (OUHFT) are collaborating with Oxford Clinical Commissioning Group (OCCG) and Oxford Academic Health Science Network To Support Anticoagulation Optimisation. The aim is to upskill both GPs and community pharmacists. 1.5 specialist anticoagulation pharmacists, with haematology consultant support, provide: <ul style="list-style-type: none"> • Email and telephone advice • Educational sessions and note-based TTR reviews in GP practices • Education sessions for community pharmacists to help effectively deliver the New Medicines Service and Medicines Use Reviews to patients on anticoagulants 	Page 32 of AF Association Healthcare Pioneers Report - accessed via http://www.heartrhythmalliance.org/afa/uk/healthcare-pioneers	susie.shapiro@ouh.nhs.uk

Appendix 1 Summary of the Patient Safety Alert requirements (details available at <http://www.nrls.npsa.nhs.uk/>)

The alert recommends that NHS and independent sector organisations in England and Wales take the following steps:

1. Ensure all staff caring for patients on anticoagulant therapy have the necessary work competences. Any gaps in competence must be addressed through training to ensure that all staff may undertake their duties safely.
2. Review and, where necessary, update written procedures and clinical protocols for anticoagulant services to ensure they reflect safe practice, and that staff are trained in these procedures.
3. Audit anticoagulant services using BSH/NPSA safety indicators as part of the annual medicines management audit programme. The audit results should inform local actions to improve the safe use of anticoagulants, and should be communicated to clinical governance, and drugs and therapeutics committees (or equivalent). This information should be used by commissioners and external organisations as part of the commissioning and performance management process.
4. Ensure that patients prescribed anticoagulants receive appropriate verbal and written information at the start of therapy, at hospital discharge, on the first anticoagulant clinic appointment, and when necessary throughout the course of their treatment. The BSH and the NPSA have updated the patient-held information (yellow) booklet.
5. Promote safe practice with prescribers and pharmacists to check that patients' blood clotting (International Normalised Ratio, INR) is being monitored regularly and that the INR level is safe before issuing or dispensing repeat prescriptions for oral anticoagulants.
6. Promote safe practice for prescribers co-prescribing one or more clinically significant interacting medicines for patients already on oral anticoagulants; to make arrangements for additional INR blood tests and to inform the anticoagulant service that an interacting medicine has been prescribed. Ensure that those dispensing clinically significant interacting medicines for these patients check that these additional safety precautions have been taken.
7. Ensure that dental practitioners manage patients on anticoagulants according to evidence-based therapeutic guidelines. In most cases, dental treatment should proceed as normal and oral anticoagulant treatment should not be stopped or the dosage decreased inappropriately.
8. Amend local policies to standardise the range of anticoagulant products used, incorporating characteristics identified by patients as promoting safer use.
9. Promote the use of written safe practice procedures for the administration of anticoagulants in social care settings. It is safe practice for all dose changes to be confirmed in writing by the prescriber. A risk assessment should be undertaken on the use of Monitored Dosage Systems for anticoagulants for individual patients. The general use of Monitored Dosage Systems for anticoagulants should be minimised as dosage changes using these systems are more difficult.

Appendix 2 The resources listed below can be found at <https://www.sps.nhs.uk/>

1. Anticoagulant Therapy Patient Safety Alert - NPSA - Mar07 - link
2. Anticoagulation Compliance Checklist, NPSA – May11 link
3. Risk Assessment of Anticoagulant Therapy - NPSA - 2006-01-v1 - link
4. Risk Assessment of Anticoagulant Therapy - Risk Assessment Grid - NPSA - Jan06 - link
5. Recommendations from the British Committee for Standards in Haematology and National Patient Safety Agency on Safety Indicators for anticoagulant services -BJH – 2006 - link
6. Guidelines on the use and monitoring of heparin - BJH – 2006 - link
7. Anticoagulant Therapy : Information for GPs - NPSA - 2007- link
8. Flyer - Anticoagulant therapy: Information for community pharmacists - NPSA - link
9. Anticoagulant patient safety alert - Advice for social care providers - NPSA – 2007 - link
10. Patient information booklet on oral anticoagulant therapy - NPSA - Mar07 - link
11. Information booklet for Dental Patients on oral anticoagulant therapy - NPSA – 2007 - link
12. Poster - Managing patients who are taking warfarin and undergoing dental treatment - NPSA - 2009-01-v1 - link
13. Record Book on oral anticoagulant therapy - NPSA – 2007 - link
14. Anticoagulant Treatment Record Vs1 - NPSA - link
15. Patient Briefing - NPSA - Mar07 - link
16. Audit Checklist - NPSA - Mar07 - link
17. Workforce competence statement: Anticoagulant competence 1: Initiating anticoagulant therapy - NPSA - 2007-03-v1 - link
18. Workforce competence statement: Anticoagulant competence 2: Maintaining oral anticoagulant therapy - NPSA - 2007-03-v1 - link
19. Workforce competence statement: Anticoagulant competence 3: Managing anticoagulants in patients requiring dental surgery - NPSA - 2007-03-v1 - link
20. Workforce competence statement: Anticoagulant competence 4: Dispensing oral anticoagulants - NPSA - 2007-03-v1 – link
21. Workforce competence statement: Anticoagulant competence 5: Preparing and administering heparin therapy - NPSA - 2007-03-v1 - link
22. Workforce competence statement: Anticoagulant competence 6: Reviewing the safety and effectiveness of an anticoagulant service - NPSA - 2007-03-v1 - link



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