

831.2.1 ANTICOAGULATION – PATIENT INR SELF-TESTING PROCEDURE**Target Audience: Anticoagulation Service**

This guideline outlines the training programme for patients wishing to purchase their own Roche self-test machine and test their own INR. Test strips will be provided by the Anticoagulation Clinic along with a sharps bin and lancet needles if patient does not wish to use the pen/needle provided with the machine.

An initial visit - a 30 minute appointment at which:

- The patient's self-testing machine will be discussed and any issues with its set up resolved.
- Storage of strips and disposal of sharps will also be discussed.
- The nurse will demonstrate how to obtain a good capillary sample from the side of the finger not the pad.
- The patient will perform a self-test.
- A comparison test will also be performed on the Anticoagulation Service machine.
- The theory and practice of self-testing will be discussed at length.
- The patient will be expected to perform an INR test on their own machine on a weekly basis for 4 weeks*, prior to attending the clinic for a second appointment.

****If the patient's INR is not stable at the point of training then the patient will need to return to clinic.***

A second visit - a 30 minute appointment:

- The nurse will ask the patient how they are progressing.
- The patient will again be asked to perform a self-test in front of the nurse.
- The [theoretical assessment](#) (appendix 2) will be reviewed by the nurse and discussed if necessary. A copy will be taken of the [home record sheet](#) (appendix 4) and, if all parties are satisfied, the [agreement](#) (appendix 3) will be signed (copy to patient) and the next appointment made for phoning in results.

FREQUENTLY ASKED QUESTIONS

What is involved in the self-testing trial period?

As above; after the initial visit the patient will be required to perform weekly finger prick blood tests for the first 4 weeks.

After this period, the frequency of testing will be dependent on the stability of the patient's INR.

The patient should report any concerns they have during the home trial to the Anticoagulation Service as promptly as possible by telephone (see [telephone numbers](#) at end of protocol).

How frequently should a finger prick blood sample be taken for an INR test?

The Anticoagulation Service will advise the patient on how often to test. However, the **minimum** period for capillary whole blood testing using the Roche self-testing system is **daily (but only if deemed necessary by the Anticoagulation Service)** and the **maximum** interval should not exceed **12 weeks**.

It is recommended that the patient test their INR on a weekday rather than a weekend, due to the requirement to contact the Anticoagulation Service with the results and in case of any abnormal readings.

What should patients do if they have any medication changes or feel unwell?

In the case of any new medication being commenced or old medication being stopped, or before/after any medical or surgical procedures (including dental treatment), the patient must contact the Anticoagulation Service for advice.

If the patient experiences symptoms of diarrhoea and/or vomiting for more than 24 hours they must contact the Anticoagulation Service for further advice.

If the patient experiences any excessive bruising or bleeding, they are advised to contact the Anticoagulation Service or seek medical advice as soon as possible.

What action should be taken if the INR result is outside the therapeutic range?

The patient should record all INR results in the yellow Anticoagulation Book. If the INR is outside the patient's therapeutic range*, the patient should contact the Anticoagulation Service for further instructions.

****Advise patient that if the INR result is less than 1.5 or greater than 5.0, they must repeat the INR test before contacting the Anticoagulation Service.***

What action should be taken if the INR result is greater than 8.0?

If the INR result is greater than 8.0 the patient should repeat the INR test again. If it is still above 8.0 then they **must** contact the Anticoagulation Service immediately (Mon – Fri, 9 am - 5 pm). The patient may be required to attend the hospital or local GP practice for further treatment.

Out of these hours, the patient **must** contact the out of hour's service via 111. **If the patient also experiences bleeding, they must go to A&E immediately.**

If the INR result is confirmed as greater than 8.0 at the Anticoagulation Service, then the patient will be required to take a dose of oral vitamin K. This medication will be provided by the Anticoagulation Service and is used to reverse the effect of the warfarin. It will help to lower the INR.

The supply and delivery of this oral vitamin K medication will be undertaken by the Anticoagulation Service.

The vitamin K medication should be taken (as directed) the same day and the dose of warfarin stopped until the anticoagulation service advises warfarin be resumed. A repeat INR test must be carried out at the Anticoagulation Service the following day.

What action should be taken if the patient experiences any bruising or bleeding?

All incidents of excessive bruising or bleeding must be reported to the Anticoagulation Service or GP. The patient is advised to carry out a finger prick INR test and have this information to hand when they call the Anticoagulation Service or GP.

Any excessive bruising or bleeding events should be recorded in the patient's yellow Anticoagulation Book.

How does the patient report problems with the Roche INR self-testing device?

The patient must report all faults directly to the Roche helpline on 0808 1007666 and then inform the Anticoagulation Service.

How often does the patient need to be reviewed by the Anticoagulation Service?

Once the patient has passed the training period and been signed off as competent they will be required to attend the Anticoagulant Clinic once every 6 months in order for comparative INR testing to be carried out and to check the quality control of the patient's meter. Also, this will be a review of the patient's progress and care.

What action should be taken if the patient has confirmed Antiphospholipid Syndrome (APS)

At initiation of point of care testing (POCT) using the CoaguChek pro II for patients with APS, it is recommended before implementing POCT-INR monitoring that a systematic comparison of a minimum of three paired POCT- and plasma-INR results is performed.

If there is a difference of >0.5 on the 2nd comparison, deem POCT not suitable for this patient. Discuss patient with consultant haematologist.

If the difference is < 0.5 difference, then the patient can continue to purchase their own self testing device and monitor their INR under the guideline 831.

What action should be taken if the patient has confirmed Antiphospholipid Syndrome and is deemed suitable for POCT using the CoaguChek pro II

Perform 6 monthly POCT and venous INR comparison tests for all patients.

If the INR is >0.5 difference on the 1st comparison test, discontinue POCT and repeat comparison test in 2 weeks. Counsel patient.

If difference >0.5 on 2nd comparison, deem POCT no longer suitable and continue with venous testing only.

Document in patient's records and write to the GP.

If a patient's INR become labile whilst using their self-testing device, please follow above procedure.

Useful Telephone Numbers

Stoke Mandeville Hospital (CCHU)

01296 315510

Mon – Fri, 9 am – 5 pm

Wycombe Hospital (WARD 3b)

01494 426270

Mon – Fri, 9 am – 5 pm

IN CASE OF EMERGENCY OUTSIDE OF THESE HOURS

Please call 111 or 999

buc-tr.anticoagulation@nhs.net

[Anticoagulation \(warfarin\) Monitoring Services - Buckinghamshire Healthcare NHS Trust \(buckshealthcare.nhs.uk\)](https://buckshealthcare.nhs.uk)

<https://shop.coaguChek.com/support/>

References

[Monitoring of anticoagulation in thrombotic antiphospholipid syndrome \(wiley.com\)](https://www.wiley.com)

[Warfarin monitoring and interference by lupus anticoagulant in patients with antiphospholipid syndrome - PubMed \(nih.gov\)](https://pubmed.ncbi.nlm.nih.gov/)

[ROCHE COAGUCHECK PRO II OPERATOR'S MANUAL Pdf Download | ManualsLib](https://www.manualslib.com/manual/1000000/Roche-CoaguCheck-Pro-II-Operator-s-Manual-Pdf-Download.html)

Appendices

[Appendix 1 Practical Assessment](#)

[Appendix 2 Theoretical Assessment](#)

[Appendix 3 Patient Agreement](#)

[Appendix 4 Self-Testing Record Sheet](#)

Title of Guideline	Anticoagulation - Patient Self-Testing Protocol (CoaguCheck [®] XS System)
Guideline Number	831
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Author/s	Philippa Cook, anticoagulation specialist nurse and team leader
SDU(s)/Department(s) responsible for updating the guideline	Haematology
Uploaded to Intranet	26 th January and 18 th July 2022
Buckinghamshire Healthcare NHS Trust	

Appendix 1

Affix patient label

Anticoagulation Services

Stoke Mandeville Hospital
Aylesbury, HP21 8AL
Tel. 01296 315510

Wycombe Hospital
High Wycombe, HP11 2TT
Tel. 01494 426270

Patient Self-Testing - Practical Assessment

1. Preparation before testing

- a) Wash hands in warm, soapy water
- b) Test strips ready
- c) Inserted a new lancet into the Softclix system
- d) Documentation and pen available

2. Setting up the INR self-testing machine

- a) Switched on the INR self-testing machine
- b) Checked INR self-testing machine battery status, date and time
- c) Strip entered correctly into the machine (when flashing strip displayed on screen)
- d) Check that the display code matches the code for the test strip to be used
- e) Observe that the strip requires time to reach the correct temperature

3. Obtaining a good capillary sample

- a) Finger prick on the side not the pad
- b) Waited 5 seconds once the finger had been punctured
- c) Finger 'milked' from the knuckle out towards the finger tip
- d) First sample to be applied within 15 seconds onto the test strip
- e) If insufficient sample obtained – re-start with a fresh needle and different finger
- f) Sharps disposed of appropriately (sharps bin provided for home use)

4. Performing an INR test

- a) See that the flashing drop of blood appears on screen prior to applying drop of blood
- b) Drop of blood applied to the target zone on the test strip
- c) Adequate sample has been applied to the test strip (not smeared)
- d) An INR result has been displayed on the INR self-testing machine
- e) The INR result has been documented in patient's yellow book
- f) Patient self-testing protocol followed for dosing

Appendix 2

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Patient Self-Testing – Theoretical Assessment

Patients must answer all the following multiple choice questions (one correct answer per question). Patients to bring this form to their second visit appointment. Any questions or queries can then be answered and resolved.

1. What is the main role of oral anticoagulants?

- a) Prevent fluid building up around the heart
- b) Prevent the further formation and/or the extension of clots in the blood stream
- c) Breakdown clots present in the blood stream
- d) Prevent patients from bleeding

2. What is the most important side effect of oral anticoagulants?

- a) Passing urine frequently
- b) Dizziness
- c) Blurred vision
- d) Bruising/bleeding

3. What action should be taken if side effects occur?

- a) Check your INR and then contact the Anticoagulation Team or your GP for advice
- b) Stop taking your oral anticoagulant
- c) Arrange for a dose of vitamin E
- d) Observe the side effects for a few days

4. When should an oral anticoagulant be taken?

- a) At 8 am
- b) At 12 pm
- c) At 8 pm
- d) The same time each day

5. What action should be taken if a dose of oral anticoagulant is missed?

- a) Take a double dose of the oral anticoagulant
- b) Check your INR immediately and then take an extra dose of oral anticoagulant
- c) Continue on your present dose of oral anticoagulant
- d) Take 3 mg extra of the oral anticoagulant for 2 days

- 6. What action should be taken if an extra dose of oral anticoagulant is taken by mistake?**
- a) Miss 2 days of the oral anticoagulant
 - b) Check your INR within 2 hours of taking the oral anticoagulant
 - c) Remain on your present dose and recheck your INR the next day
 - d) Miss 1 day of the oral anticoagulant
- 7. What effect can other medications have on your INR?**
- a) Mostly raise the INR result
 - b) Mostly lower the INR result
 - c) May lower or raise the INR result
 - d) Have little effect on the INR result
- 8. What effect does alcohol have on the INR?**
- a) Lowers the INR result
 - b) Raises the INR result
 - c) May lower or raise the INR result
 - d) Has no effect on the INR result
- 9. What food type may lower your INR result if taken in excess?**
- a) Carrots
 - b) Broccoli
 - c) Tomato
 - d) Oranges
- 10. What action should be taken if dental treatment, surgery or medical interventions are required?**
- a) Miss your oral anticoagulant for 7 days before the treatment
 - b) Contact the Anticoagulant Team or your GP for advice
 - c) Halve the dose of your oral anticoagulant for 7 days before the treatment
 - d) Reduce your dose to 3 mg daily for 3 days before the treatment
- 11. What vitamin is used to reverse the effect of oral anticoagulants?**
- a) Vitamin E
 - b) Vitamin C
 - c) Vitamin K
 - d) Vitamin D

Appendix 3

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Anticoagulation: Patient Self-Testing Agreement

I agree to participate in the Anticoagulation Service's Self-Testing training programme, which will include a **minimum** of 2 visits* to either the CCHU at SMH or Ward 3b at WH for initial training.

*If it is deemed necessary by the Anticoagulation Service for me to attend further training, I will agree to this.

I also agree to attend SMH or WH every 6 months to check the quality control of my INR self-testing machine and to discuss my care.

Once I have completed my training, I will agree to test my INR when asked and phone the Anticoagulation Service with the results within 2 days of testing so that I can be dosed accordingly. I agree to attend the Anticoagulation Service if my INR results are outside of my therapeutic range. I understand that I must NOT self-dose my warfarin. I understand that if I do not adhere to these terms the patients self-testing agreement will be stopped.

Name of Self-Tester (Patient)

Signed (Patient)

TO BE SIGNED BY ANTICOAGULATION NURSE AFTER TRAINING;

I agree that the above named patient is competent with testing their own INR and they have been fully informed of the procedure for telephoning results and accessing the Anticoagulation Service.

Signed (Trainer Anticoagulation Service)

Date:

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Anticoagulation: Patient Self-Testing Record Sheet

This sheet is for the patient to record their own training INR's and note any problems experienced. This will aid the Anticoagulation staff to help resolve any problems.

Date:

CoaguChek® XS INR result =

Comments/issues:

Date:

CoaguChek® XS INR result =

Comments/issues:

Date:

CoaguChek® XS INR result =

Comments/issues:

Date:

CoaguChek® XS INR result =

Comments/issues:

Next anticoagulation appointment: