|  |  |
| --- | --- |
| **Module** | Management of VKAs (HCP) |
| **Topic** | Educating those taking oral anticoagulants (vitamin K antagonists) |
| **Audience** | Healthcare professional |
| **Type** | Core content |
| **Version** | 6 |

**Introduction**

The aim of this chapter is to give you the knowledge to effectively educate those taking a vitamin K antagonist (warfarin).

By the end of this chapter you should be able to:

1. Statethe importance of effective education of those taking warfarin
2. Summarise the information that patients need to know when they start taking warfarin
3. Apply a patient-centred approach to warfarin education

**Why is warfarin education important?**

Patient knowledge regarding warfarin has been shown to influence anticoagulation control. Therefore, education to improve patients’ warfarin knowledge and to foster medication adherence is essential.

POINTS TO PONDER …

Have you come across a situation where a patient on warfarin was put at risk because they did not have a good understanding of warfarin? What do you consider are the main areas of risk?

**The initial education consultation**

*(image - consultation.JPG)*

All those newly started on warfarin should be educated on its use by a healthcare professional and this should be documented in their record. This usually takes place during their first anticoagulant clinic appointment, and it can take anything from 30 minutes to an hour. Some practitioners find it useful to use a checklist to confirm that essential educational elements are covered.

**What are the objectives of the educational consultation?**

The objectives of the educational consultation should be as follows:

* To provide an opportunity for the practitioner and patient to reach a mutual understanding of their anticoagulation needs
* To address patients’ concerns about their anticoagulation
* To ensure patients have sufficient information to play a collaborative role in their anticoagulation management
* To establish a relationship between the patient and practitioner

**The NPSA yellow book**

*(image of yellow book)*

The patient should be issued with a completed yellow anticoagulant book, produced by the National Patient Safety Agency (NPSA – now subsumed into the NHS Commissioning Board Special Health Authority) if they have not already received one. They should be advised to carry its wallet-sized information card with them at all times. In the event of them needing urgent medical attention it lets those looking after them know that they are on oral anticoagulation.

These yellow books can be ordered from the NHS Business Services Authority. Contact details available at <http://www.nrls.npsa.nhs.uk/resources/order-publications/>

The yellow book is also available for download in English and 11 other languages. (http://www.nrls.npsa.nhs.uk/resources/?entryid45=61777&p=11)

**Involving carers and relatives**

****

* It is also important to involve any carers and relatives at this stage. Please ensure that you have verbal confirmation from the patient for them to attend the initial consultation and subsequent consultations.
* If the patient is dependent on the relative or carer to help manage with their day-to-day routine including their medication taking, it is sensible to note the relative/carers contact details. In the event of a poor INR reading, the relative/carer may be the best person to provide you with an accurate account of the patient’s wellbeing. Your decision to alter warfarin doses may be taken in light of what is relayed to you by the relative/carer.
* It is also advisable to find out if a translator is needed if the person’s first language is not English.

**Taking a patient-centred approach to the educational consultation**

A patient-centred approach to the consultation is advised. This approach to clinical consultations can improve satisfaction and biomedical outcomes. There are many definitions of patient-centred consultations and a full consideration of this topic is beyond the scope of this chapter. However, in terms of the anticoagulation educational consultation, it is useful to take on board its principles.

**What is a patient-centred approach?**

A patient-centred consultation embraces a shift from a paternalistic approach, where the practitioner counsels the patient on their therapy by ‘feeding’ them information, to one where the patient’s experiences, knowledge and views are actively sought and taken on board.

Patients are diverse: their behaviour and attitudes will vary as individuals and in relation to age, gender, ethnicity and social background. Therefore a flexible approach to consultation will be needed to accommodate the diversity of needs and expectations amongst individuals.

**POINTS TO PONDER**

Are there any circumstances when you would be justified in adopting a less patient-centred  – i.e. a more paternalistic – approach to educating those starting warfarin? How would you do this?

*(Click to reveal)* It is also important to acknowledge that not all patients will wish to engage in a full discussion about their warfarin, or they may be putting themselves at risk through misguided beliefs. In these circumstances, anticoagulation practitioners may need to adopt a paternalistic approach to ensure safety.

**Using the Four Es model**

Adopting the ‘Four Es model’ may help structure the consultation. This health coaching model considers the four key elements of the patient consultation – Explore, Educate, Empower and Enable – which can be used to sequentially, partially or individually. The flowchart below considers how this could be put into practice in an anticoagulation consultation.

**Applying the 4Es model of health coaching to the anticoagulation educational consultation**

**ENABLE**

This is to help patients consider how they will integrate taking warfarin into their lives. For example:

*‘How will you remember to take warfarin each day?’*

THIS HANDS THE PATIENT THE RESPONSIBILITY FOR TAKING THEIR WARFARIN

**EMPOWER**

For example: *‘What do you now think about taking warfarin?’*

A health coaching approach suggests that it is preferable to know at this stage if the patient is unhappy about taking warfarin, rather than risk non-adherence.

**EDUCATE**

Provide patient with the knowledge that they need to manage their oral anticoagulation safely

Use the ‘teach-back’ method to check understanding of key points. For example: ‘*To make sure that I have explained things clearly can you tell me what you would do if you noticed blood when you went to the toilet?’*

**EXPLORE**

Patient knowledge: *What do you know about warfarin? Do you know why you have been started on warfarin?*

Patient perceptions: *What benefits do you think you will get from warfarin? Do you have concerns about warfarin?*

THESE QUESTIONS ALLOW YOU TO SET AGENDA FOR THE CONSULTATION TO ADDRESS GAPS IN KNOWLEDGE AND ANY CONCERNS THE PATIENT MAY HAVE. THEY ALSO RAISE PATIENT AWARENESSS OF THE IMPORTANCE OF TAKING WARFARIN

**ACTVITY: CASE STUDY**

John Smith is a 73 year old man who has atrial fibrillation who is attending your clinic for his first visit. He is at a high risk of having a stroke, and you have been asked to start him on warfarin. He has a history of alcohol misuse and is reluctant to start taking warfarin.

Consider the questions that you might ask John to understand his reluctance to take warfarin. Think about the actual words and phrases you might use and the main issues to raise, ensuring that the consultation is patient-centred.

***Suggested answers***

*I see from this referral that you have been recommended warfarin following your stroke …*

*Tell me what you know about warfarin?*

*How do you feel about starting warfarin?*

*Do you have any specific concerns about warfarin? Can you tell me what they are?*

*There are lots of studies that show that warfarin works well in preventing further strokes. Can you tell me what you know about that?*

*How are things at home?*

**Are there core topics that should be covered in the educational consultation?**

Although education is best given as a response to a patient’s requests, there is essential safety information for warfarin that you need to convey. This is best linked this to the patient’s agenda where possible.

These core educational topics are summarised below, framed as patient questions. Please note that this is not an exhaustive list but will form the basis of a discussion with your patient.

**Why have I been started on warfarin?**

The most common reason for a patient attending your clinic will be for stroke prevention in atrial fibrillation. Atrial fibrillation increases the likelihood of having a stroke by 4-5 fold. Anticoagulation has been well studied and published trials indicate that warfarin is superior to aspirin.

Other reasons for anticoagulation include prevention of harmful clots in patients with increased risk of clot formation; for example, metallic heart valves or prevention of further emboli in those who have had a venous thromboembolism (VTE).

The treatment duration, which should be stated on the anticoagulant referral form, will need to be conveyed to the patient also.

**What is warfarin?**

*(image warfarintabs.svg)*

Warfarin slows down the rate at which blood clots by preventing the formation of vitamin K-dependent clotting factors. This prevents harmful clots from forming.

It comes in three different strengths (1mg, 3mg and 5mg tablets) which are colour-coded to aid differentiation. Although a fourth strength (0.5mg) tablet exists, many clinics do not recommend its use as it is white in colour and therefore easily confused with other medication

**How should I take warfarin tablets?**

**(image -**

Warfarin should be taken once a day at a time that suits the patient. Evening administration is preferred as, in the event that a dose needs missing or a loading dose is required, the patient can follow through with instructions on the day of the clinic visit. However, the most important factor is that the time of administration will enable the patient to take it as recommended.

There will be occasions when a fraction of a milligram daily dose – for example, 3.5 mg daily - is required to keep a patient’s INR within range. This means that dosing over the week is not consistent and the patient may be required to take different doses each day. Methods to improve compliance including using Dossett boxes and dose calendars can help. However, do gain consensus with the patient about a dose regimen that is most acceptable to them.

**What should I do if I miss a dose of warfarin?**

*(Image - 118\_MP900442430.JPG)*

Due to the long half-life of warfarin, an occasional missed dose is not usually significant, but missing several consecutive doses will result in a subtherapeutic INR, putting the patient at a risk of clotting.

Patients are advised to avoid missing doses. In the event that they remember within 4 hours of their normal time of taking, they should take that day’s dose at this later time. If 12 hours or more have passed, then the patient should not take the dose; instead, they should take the next dose at the normal time. Any missed doses should be reported to the anticoagulation practitioner so that it can be considered in the event of an out-of-range INR.

**Why do I need to come to a clinic to have my warfarin treatment monitored?**

The dose of warfarin needs to be sufficient to prevent harmful clots from forming, but not too much so that the patient is placed at risk of bleeding. Due to the inter-individual differences, including age, size and how drugs are metabolised, people respond differently to a given dose of warfarin. Therefore, there needs to be way of checking that the dose of warfarin is safe and effective on an individual basis.

**How is my warfarin treatment monitored?**

The effect of warfarin is measured by taking a venous or capillary blood sample and measuring the INR (International Normalised Ratio). This measures how long it takes the patient’s blood to clot compared with a person who is not taking warfarin. For example; the blood of a person with an INR of 2.0 is taking twice as long to clot compared with a healthy person who is not taking warfarin.

**How often will I need to have my INR measured?**

*(image - 118\_MP900309636.JPG)*

Regular INR blood tests are necessary to ensure that the dose taken is therapeutic. In the early stages of warfarin treatment, frequent INR tests are needed to aid rapid but safe dose escalation. Once a patient is established on a maintenance dose, you should be able to reduce the frequency of testing

Many factors affect a patient’s handling and sensitivity to warfarin, and their dose requirement can alter during the treatment course. The frequency of testing will vary according to fluctuations in the INR.

**What are the side effects of warfarin?**

The most common and significant side effect of warfarin is bleeding. This can be broadly divided into serious and non-serious bleeding; it is important that the patient knows the action to take in the event of bleeding

**Serious bleeding**

*(image - 118\_MP900314367.JPG)*

This is classed as bleeding that is prolonged and difficult to stop. The following should result in seeking urgent medical advice:

* Prolonged nosebleeds (more than 30 minutes)
* Haematemesis
* Haemoptysis
* Haematuria (pink or red urine)
* Malaena (Black ‘tar-like’ bowel movements that are foul-smelling)
* Severe or spontaneous bruising
* For women, unusually heavy bleeding during menstruation or any other vaginal bleeding
* Severe, unusual headache, dizziness, fatigue or weakness.
* Severe bleeding from gums
* Severe bleeding from a small cut (more than 30 minutes)

**Non-serious bleeding**

Bleeding which is easily managed or bruising due to an obvious cause. These require no active management. It is more a case of watchful waiting and reassurance for the patient

**Reducing the risk of bleeding**

Whilst those taking warfarin should not alter their daily activities, they are at risk of excess bleeding if they are injured. The following strategies will minimise this risk:

* Take measure to avoid trips and falls
* Wear gloves when gardening
* Wear a thimble if sewing
* Avoid contact sports that may cause injury (e.g. football, rugby, boxing)
* Consider using an electric razor instead of a wet shave

**Other side effects of warfarin**

The following side effects have also been reported:

* Rash
* Alopecia
* Gastrointestinal disturbances
* Intolerance to cold
* Tiredness

**Will other medicines interact with warfarin?**

*(image - 118\_MP900398845.JPG)*

Warfarin interacts with many other drugs and you should advise patients to inform the clinic of any changes in their regular medicines, including those that they have purchased.

It is not likely to be of value to go through all significant drug interactions with the patients. However, you should mention interactions with the following:

* Aspirin and NSAIDS – for pain relief paracetamol within the maximum recommended dose is preferred
* Antibiotics – interaction is unpredictable but commonly increased INR seen
* Herbal & alternative medication – numerous interactions. Check with clinic before starting
* Over the counter (OTC) medicines – Check with your pharmacist before purchasing

There are reports of elevated INRs in patients who have received influenza vaccination. It is difficult to predict who will develop this adverse effect, and it is recommended that the INR is checked within 7 days of vaccination.

**Will changes in my diet affect my INR test?**

*(image - 118\_MP900402672.JPG)*

A consistent diet is recommended. Whilst a complete abstinence from vitamin K-rich foods is not necessary (or healthy), diets with extreme vitamin K content should be avoided (for example, cabbage soup diet). Patients should be cautioned also on the vitamin K content of food supplements.

Extreme dieting and binge eating should be avoided

**Can I drink alcohol whilst I am taking warfarin?**

*(image - 118\_MP900442439.JPG)*

The recommended maximum consumption of alcohol is as follows:

For men, 3 units per day, and for women, 2 units per day.

Avoid saving units up for the weekend, and binge drinking

**If I am unwell will this affect my INR?**

*(image - 118\_MP900422201.JPG)*

It is unclear what the effect is, but a patient’s INR may alter as a consequence of acute ill-health (e.g. cold and ‘flu).

Acute gastrointestinal disturbance may reduce absorption of warfarin, causing a decrease in INR. Stress can also affect the INR.

**What will happen if I have to have any surgery, including dental surgery?**

Patients undergoing elective surgical procedures should obtain advice about omitting warfarin doses from the hospital team managing the procedure. Clear peri-operative bridging guidelines should be available.

The NPSA recommended that as long as the INR is no greater than 4, within 3 days of a simple dental procedure, no warfarin needs to be omitted.

Further information on the management of anticoagulated patients requiring dental treatment can be found here (http://www.nrls.npsa.nhs.uk/resources/?entryid45=59814&q=0¬anticoagulant¬)

**Is it safe for me to become pregnant whilst I am on warfarin?**

*(image - 118\_MP900448533.JPG)*

Warfarin can be harmful to the unborn child if it is taken during pregnancy and is therefore not recommended. Those who think that they are pregnant, or who are planning to start a family, should discuss with their GP.

**Can I breastfeed whilst I am taking warfarin?**

*(image - 118\_MP900308946.JPG)*

It is considered safe to breastfeed whilst on warfarin

**How should I store my warfarin tablets?**

*(image - 118\_MP900438773.JPG)*

Warfarin should be stored at room temperature, away from heat, moisture and light. Do not store them in the bathroom. As with any other medicine, they should be kept out of the reach of children and away from pets.

**How do I go about getting further supplies of warfarin?**

GPs will provide prescriptions on receipt of the latest INR result. If using HeartBeat software, this information will be in patient’s summary. Otherwise, an up-to-date yellow book will suffice. NPSA guidance strongly recommends that GP practices check for the latest INR and dose before supplying repeat prescriptions.

**What about these new anticoagulants (NOACs) that don’t need blood tests?**

Warfarin and NOACs are just as effective as each other in preventing blood clots for certain conditions if they are taken exactly as advised. The main side effect of both types of drugs is bleeding. Currently there is no antidote to a NOAC if a patient suffers a major bleed (cf: vitamin K for warfarin)

Compared with decades of clinical experience with warfarin, there is still much to learn about NOACs especially about their side effects. They have not been clinically tested in as many conditions as warfarin, so cannot be used for some conditions (e.g. mechanical heart valves and thrombophilia disorders).

NOACs have the advantage of not needed regular blood tests to measure their anticoagulant effect. However, those taking a NOAC will still need regular reviews to check they have not had any side effects or have developed any blood clots, as well as blood tests to check that their renal function.

**A final note**

Remember that patient education is not a one-off exercise, and it is likely that elements will need to be reinforced throughout the treatment course.

POINTS TO PONDER …

Consider how you would conduct the educational session for those with

* Low health literacy
* Cognitive impairment
* An obstructive carer

What are the challenges are faced in each of these situations? How would you attempt to overcome them?

**ACTIVITY (OPTIONAL)**

Below are links to two patient education videos

**Living with warfarin (Johns Hopkins, USA)**

<http://www.youtube.com/watch?v=R17a9B9huGQ>

High quality, 16 minute video designed to be viewed by the patient.

**Information for patients taking warfarin (Southampton Hospitals, UK)**

http://www.youtube.com/watch?v=VavVyBKhj6o

11-minute video covering the fundamentals of patient warfarin education

**DEMONSTRATE MY SKILL**

You should now take the opportunity to educate a patient who is starting to take oral anticoagulation. If you do not currently have access to such a patient, ask a friend or colleague to play the part of a patient.

If possible, and with the patient’s permission, ask a colleague or your local mentor to sit in on this session. Then, after the session, ask them for feedback structured around the reflective tool, which can be accessed here *(-> extra content – reflective tool)*

Alternatively, use this tool for self-reflection