

Dental Management of Patients Taking Anticoagulant Drugs Outside a General Hospital Setting

NHS Tayside Integrated Dental Service Local Guidance

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Background

This guideline has been composed to offer guidance, standardisation of care and information to practitioners caring for patients who attend the anticoagulant clinics throughout the Tayside Area. Dental patients who are taking oral anticoagulants (or injected low dose Fragmin - up to 5000 units) may undergo surgical procedures safely in primary care so long as their treatment is planned and managed appropriately.

Patients taking anticoagulants are at increased risk of significant prolonged bleeding following dental extractions/surgery (defined as bleeding for more than 12 hours post-operatively which cannot be controlled by local measures alone.) However, published evidence suggests that with appropriate local management of haemostasis, at the time of treatment, by suturing and placement of haemostatic material, these risks should be minimal for most patients taking the anticoagulants covered in this guidance.

Discontinuation of anticoagulant therapy carries significant risks of morbidity, sometimes with a fatal outcome, from thromboembolic complications. There is some evidence that there is a “rebound” effect of discontinuing oral anticoagulants, which increases the daily risk for patients above the baseline risk for patients with similar pathology who have never taken an anticoagulant.

Therefore it is considered that, in the majority of clinical situations, the risks of discontinuing oral anticoagulant therapy outweigh the minimal benefits of reduced post-operative bleeding. Dental management of these patients is based on good operative technique, use of local measures to minimise bleeding and the avoidance, whenever possible, of changes to the patient’s anticoagulant regime.

Aim of Guideline

To ensure that such patients are managed in line with current evidence, this guideline is consistent with the advice given in the following documents.

- BNF No. 62 (September 2011)
- The NHS National Patient Safety Agency poster, “Managing patients who are taking warfarin and undergoing dental treatment” (2009)
- North West Medicines Information Centre documents, “Surgical Management of the Primary Care Dental Patient on Warfarin.” (Revised 2007) and “Surgical Management of the Primary Care Dental Patient on Antiplatelet Medication.” (Revised August 2010)
- British Committee for Standards in Haematology, “Guidelines for the management of patients on oral anticoagulants requiring dental surgery.” (Due for revision 2011)

Who should use this Guideline?

All dental staff involved in the management of patients prescribed oral anticoagulant drugs and who are undergoing dental surgery.

Patients Unsuitable for Dental Management in Primary Care

Patients who have an INR greater than 4.0, or who have very erratic INR, should not undergo any form of dental procedure, other than those from the “safe” list below, without consultation with the clinician who is responsible for maintaining their anticoagulation. The anticoagulant dose may be adjusted prior to the procedure, at the discretion of this clinician or elective dental procedures from the “risk of significant bleeding” list below deferred.

The following medical problems may affect coagulation and clotting:

- liver impairment and/or alcoholism
- renal failure
- thrombocytopenia, haemophilia or other disorder of haemostasis
- current course of cytotoxic medication.

Patients with any of these conditions, who also take anticoagulants, should be discussed with a Senior Dentist before undertaking a procedure which carries a significant risk of bleeding.

Dental Management for Patients Taking Oral Anticoagulant Drugs

Many dental procedures do not involve a significant risk of bleeding and therefore no special measures are required when treating patients who take an oral anticoagulant drug.

These procedures are:

- Simple restorative treatment
- Supragingival scaling
- Local anaesthesia by buccal infiltration, intraligamentary or mental block
- Impressions and other prosthetics procedures.

Procedures which carry a risk of significant bleeding and for which the dentist needs to consider the management of the patient in relation to their anticoagulant therapy are:

- Local anaesthesia by inferior alveolar or other regional nerve blocks or lingual or floor of mouth infiltrations.
- Subgingival scaling and Root Surface Instrumentation (RSI).
- Crown and bridge preparations
- Extractions
- Minor oral surgery
- Periodontal surgery
- Biopsies.
- Incision and drainage of swellings.
- Endodontics (In the case of endodontics, clinicians may wish to consider the need for special precautions on a case by case basis.)

Planning Treatment & General Guidance Notes

- If the patient is on a finite course of anticoagulant, consider delaying elective treatment which may cause bleeding, until the anticoagulant drug has been discontinued.

If **emergency** treatment is necessary and the INR is unknown

ON WEEKDAYS

- Arrange an urgent INR test via the patient's GMP or usual INR test provider.
- If the INR is 4.0 or less, proceed with treatment required.
- If the INR is > 4.0 phone OMFS at Ninewells and confirm the referral in writing via a letter given to the patient to take with them.

AT WEEKENDS

- Contact the on call Senior Dental Officer to confirm the need for urgent treatment and the need for an INR.
- If **both** dental treatment carrying a risk of bleeding **and** an INR reading are required, the patient should be referred directly to the OMFS Department via the duty Senior House Officer, so that the INR and the dental treatment can be carried out in hospital.

GENERAL GUIDANCE

- There is no indication for routinely prescribing antibiotics for patients who take oral anticoagulants. Where antibiotics are required, it should be noted that many antibiotics interact with coumarins and ideally the INR should be rechecked four days after starting a course of antibiotics.
- Morning appointments, earlier in the week allow any post op bleeding to be dealt with in the working day and before the weekend.
- Local anaesthetic solutions containing a vasoconstrictor should be used unless contraindicated on other medical grounds. An aspirating syringe must be used for all local anaesthetic injections.
- For subgingival scaling, a small area should be scaled first, to assess the amount of bleeding, before instrumentation of larger areas is carried out. It may be necessary to complete a full mouth scaling over several visits.
- Extractions should be restricted to a maximum of three teeth per visit with only a single tooth being extracted at the first visit, when possible, to assess the amount of bleeding.
- All extractions should be completed as atraumatically as possible.
- Sockets should be gently packed with haemostat **and sutured**, ideally with resorbable sutures, at the time of extraction.

Post-operative management/care instructions for extractions and surgery

The patient should be advised to rest for 2-3 hours post-operatively, to allow the clot to stabilise and local anaesthetic to wear off. The patient should be given the standard post-operative advice verbally and in writing.

Appropriate telephone contact details should be issued to the patient, in writing, and the patient should know how to obtain advice and/or help both in and out of hours, if bleeding occurs.

In addition the following (modified) advice regarding analgesics should be given.

- For post-operative pain control, paracetamol is the safest painkiller. Non-steroidal anti-inflammatory drugs such as aspirin, ibuprofen, voltamol, ponstan etc. must be avoided.
- If paracetamol alone is not sufficient to manage pain, the patient should consult their doctor for advice on pain relief

Dental Management Strategy for Patients Taking Oral Anticoagulants

Step 1 - Assess the dental procedure to be performed for risk of bleeding. (If no significant bleeding risk – proceed with dentistry.)

Step 2 - Assess the anticoagulation status of the patient.

Step 3 – Follow detailed guidance below and proceed with dentistry, delay dentistry pending advice from the patient's physician or refer for specialist dental / oral surgical management.

Primary Care Dental Management of Patients Taking Oral Anticoagulant Drugs in Current Use

Vitamin K Antagonists (Indirect effect on the production of clotting factors.)

WARFARIN, ACENOCOUMAROL (Nicoumalone, Sinthron) PHENINDIONE

The anticoagulant effect of these drugs is measured by the International Normalised Ratio (INR). Because of the nature of the action of these drugs it takes several days for a change in the dose of the drug to produce a change in the INR reading. These drugs interact with many other medications so it is always wise to check for possible interactions before prescribing for patients taking a vitamin K antagonist.

For most patients the target INR is in the range of 2.0 to 3.0. Occasionally patients have higher target ranges of 2.5 to 3.5 or 3.0 to 4.5.

DENTAL MANAGEMENT

Anticoagulants that do not require regular blood test monitoring -

RIVAROXABAN (Xarelto) and APIXABAN (Eliquis) These are oral drugs which are direct inhibitors of activated factor X. Rivaroxaban is the predominant factor Xa inhibitor used in Tayside but the advice is the same for both agents. For some patients this drug is used for only 2- 6 weeks following elective knee and hip replacement surgery and such patients should rarely present for treatment while still taking the drug and most dental work should be delayed until after this period. It is also used longer term for treatment of DVT and Pulmonary Embolism and in some patients with atrial fibrillation. In clinical trials the anticoagulant effect was demonstrated to be equivalent to a patient on warfarin with a target INR of 2.0 - 3.0. The drug has a relatively short half-life (9 hours) so the clotting status returns to normal within 24 hours if the drug is discontinued. **Due to predictable pharmacokinetics and use of fixed doses of this agent there is no routine blood test monitoring required and the INR is not sensitive to the anticoagulant effect in these patients.**

DABIGATRAN ETEXILATE (Pradaxa)

This is an oral drug which is a direct thrombin inhibitor. It is used in some patients with atrial fibrillation. In clinical trials the anticoagulant effect was demonstrated to be equivalent to a patient on warfarin with a target INR of

2.0 - 3.0. It also has a relatively short half-life (13 hours) so the clotting status returns to normal within 24 hours if the drug is discontinued (unless the patient has developed renal failure). **Due to predictable pharmacokinetics and use of fixed doses of this agent there is no routine blood test monitoring required and the INR is not sensitive to the anticoagulant effect in these patients.**

DENTAL MANAGEMENT

- No pre-operative testing required.
- For all extractions, scaling etc. Proceed without altering the drug regime. Multiple extractions and surgical procedures are considered safe for patients continuing to take these anticoagulant drugs. When practical, however, the number of teeth to be extracted at a single visit should be limited to 3-4 teeth and it is advisable to assess the extent of bleeding after the extraction of the first tooth. (There is an approximate 1:10,000 risk of stroke, per day, in patients with atrial fibrillation without anticoagulant therapy).
- **For patients with a prosthetic valve or other device in place, consult the cardiologist for advice.** *(It is very unusual – approximately 5-6 patients across Scotland - for a patient with a prosthetic valve to be placed on these drugs rather than warfarin. As each patient will need to be managed in an individual manner it is vital that their cardiologist is contacted for advice.)*
- For patients on short courses of anticoagulant, post orthopaedic surgery, delay any elective treatment until the patient is recovered. For emergency treatment in such patients, consult the orthopaedic surgery team before proceeding. *(Rationale for this relates to the risk of post operative infection of the recently placed prosthetic joint, rather than to bleeding risk.)*
- Where a patient taking these drugs presents with a post operative haemorrhage, contact the Haematology Department for advice.

(Other than the lack of a requirement for pre-operative INR testing, the dental management for patients taking Rivaroxaban, Apixaban and Dabigatran is the same as would be the case for a patient taking Warfarin, who has a stable INR with readings consistently less than 4.0.)

Anti-Platelet Drugs

ASPIRIN

CLOPIDOGREL (Plavix)

DIPYRIDAMOLE (Persantin, Persantin Retard)

ASPIRIN/DIPYRIDAMDOLE COMBINATION (Asasantin Retard)

PRASUGREL (Efient)

TICAGRELOR (Brilique)

The anti-platelet drugs may be used alone or in combination – usually aspirin plus one other – or occasionally an anti-platelet drug may be used in combination with a coumarin.

DENTAL MANAGEMENT

- For patients taking only aspirin the risk of excessive bleeding is minimal. Proceed following the general guidance notes above.
- For patients on a single anti-platelet drug or dual aspirin/dipyridamole therapy (Asasantin Retard) there is a risk of increased bleeding but this may not be clinically significant. Proceed following the general guidance notes above.
- For patients taking Aspirin in combination with Clopidogrel or Prasugrel, consult the patient's cardiologist before planning dental interventions. These patients may have a history of unstable cardiac problems and/or recent cardiology interventions such as stent placement. **If a patient has had a stent placed and is taking dual anti platelet therapy then this should only be stopped in cases of extreme clinical emergency and only after discussion with the invasive cardiologists.** This might mean postponing dental work until the period of dual anti-platelet therapy (DAPT) is over.

**FOR ANY OTHER COMBINATION OF ANTIPLATELET/
ANTICOAGULANT MEDICATION – CONSULT THE PHYSICIAN
MANAGING THE PATIENT'S CARE BEFORE PROCEEDING.**

Injected Anticoagulants

DALTEPARIN (Fragmin)

Low dose fragmin (5000units od), used for prophylaxis of Deep Vein Thrombosis, is equivalent to warfarin with target INR of 2-3 and could be managed as such.

Due to the short half life, the fragmin could be omitted 24 hours prior to an elective extraction if there are particular concerns regarding bleeding.

Higher therapeutic doses may cause bleeding problems and it would NOT be appropriate to proceed with extractions etc. whilst the patient is on such a treatment regime. Patients who require such a regime are almost certainly at high risk of a thrombotic event and there would be serious concerns regarding discontinuation of the fragmin regime. Where possible, dental work should be delayed.

If dental treatment cannot be delayed, then the management of the patient must be discussed with the physician in charge of the anticoagulant treatment.

