

Managing postoperative bleeding: a refresher for the GDP

Prevention of postoperative bleeding can be aided by planning and a thorough medical history. Good lighting, suction and clot evacuation aid assessment.

Postoperative bleeding is a known risk of dental extraction, with varied incidence. Bleeding is a normal response to trauma and may continue for up to 24 hours. Reactionary haemorrhage can also occur in the two to three hours post extraction. Normal haemostasis is composed of three main components: local measures (e.g., vasoconstriction); primary haemostasis (formation of platelet plug); and, secondary haemostasis (coagulation cascade). Several systemic factors (**Table 1**) can affect haemostasis, along with medication-induced changes. When in doubt, further information should be sought from the patient's GP or referral to secondary care considered. Guidance is available around management of medications, and these should be considered.¹ This article outlines the common bleeding disorders, and the management strategies that can be adopted in primary care.

Assessing bleeding risk

Consideration must be given to the level of bleeding risk associated with intended procedures (**Table 2**). Individual patient bleeding risk should be assessed and will depend on prescribed medications, as well as medical conditions previously discussed. Exploration of patient bleeding history can be a useful indicator of potential response to invasive dental treatment.

Table 1: Systemic factors that can affect haemostasis.

Systemic causes:	
Disorders of coagulation cascade	Haemophilia A, B von Willebrand disease Factor XI deficiency Liver disease Vitamin K deficiency
Platelet disorders	Aplastic anaemia Leukaemia Immune thrombocytopenia Wiskott-Aldrich syndrome
Vascular disorders	Marfan syndrome Ehlers-Danlos syndrome Vitamin C deficiency Arteriovenous malformation

Clinical tip:

A patient's previous bleeding experience with invasive dental treatment is a useful indicator for future experience and should be explored as part of a thorough history-taking.

Liaising with the patient's pharmacist/GP can clarify any uncertainty around medications and dosing. Many patients with cardiac arrhythmias or atherosclerosis are medicated to reduce their risk of thrombosis. Antiplatelet drugs affect platelet aggregation and activation, and therefore primary haemostasis, while anticoagulants inhibit the production and/or activity of various clotting factors within the coagulation cascade and impair secondary haemostasis. Anticoagulant or antiplatelet therapy should not be stopped for patients with prosthetic metal heart valves or coronary stents, patients who have had a pulmonary embolism or deep vein thrombosis in the last three months, or patients on anticoagulant therapy for cardioversion. Treatment carrying a low or higher risk of bleeding should be scheduled for sufficient time, and early in the day and week, to facilitate management of potential adverse bleeding events.

Clinical tip:

Schedule the patient for early in the day, early in the week, and allow time for postoperative haemostatic management.

Table 2: Level of bleeding risk associated with intended procedures.

Low risk	Higher risk
Simple extraction(s), one to three teeth	Adjacent extractions, surgical extractions, more than three teeth at once
Incision and drainage of intraoral abscess	Procedures involving raising a mucoperiosteal flap
Detailed periodontal charting, non-surgical periodontal therapy	Biopsies
Restorations with subgingival margins	

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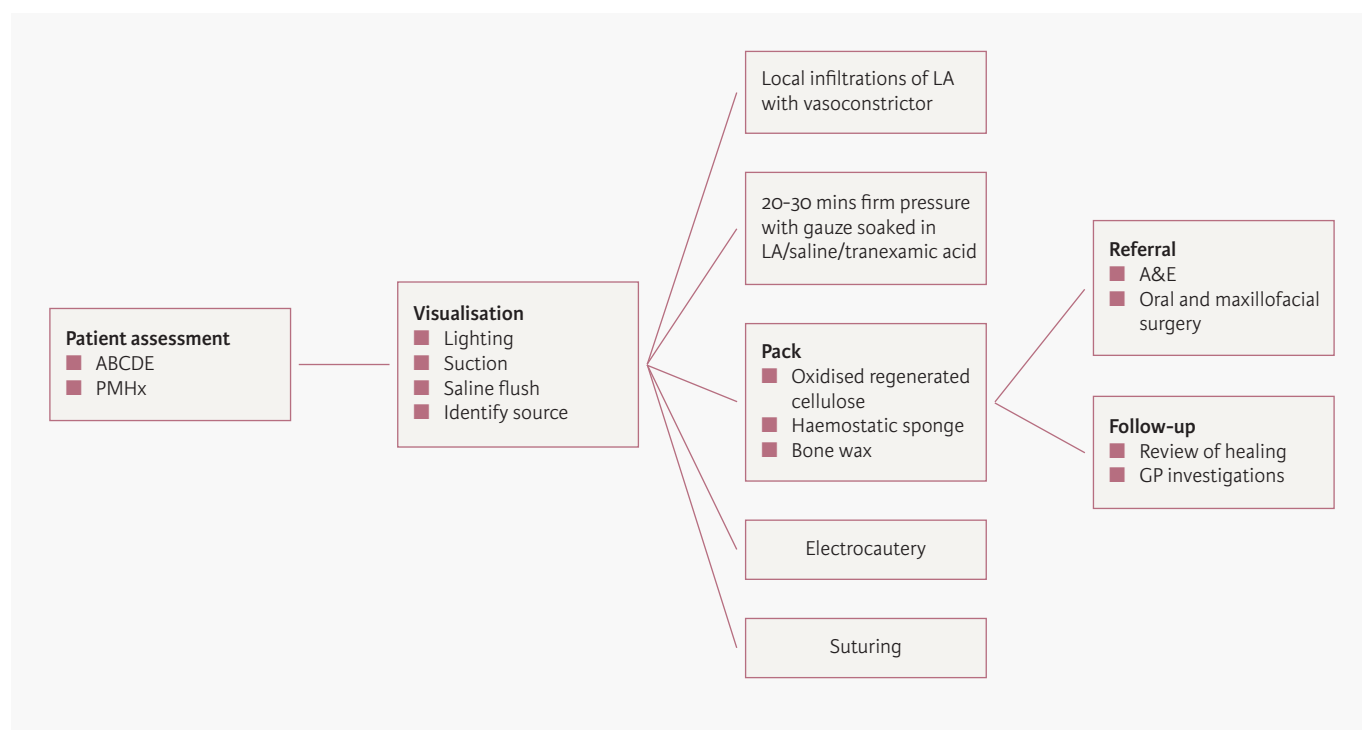


FIGURE 1: Local haemostatic measures.

Serious bleeding events after dental procedures are rare and bleeding can generally be controlled with local haemostatic measures as outlined in **Figure 1**. Less than 1% of patients who continue their anticoagulant therapy are likely to require hospitalisation for management.

Direct oral anticoagulants

For patients on direct oral anticoagulants (DOACs) undergoing low-bleeding-risk procedures, treatment can proceed without interrupting medication, while taking the appropriate local measures. For those undergoing higher risk procedures, it is advised that they miss or delay the morning dose before treatment. For those taking twice-daily DOACs (apixaban or dabigatran), the morning dose should be skipped and the usual evening dose taken post treatment. For those taking once-daily medications (rivaroxaban or edoxaban), the morning dose should be delayed and re-started four hours after haemostasis is achieved.

Warfarin

Warfarinised patients should ideally have their INR assessed within 24 hours before treatment, and no longer than 72 hours beforehand. If INR is less than 4, treat without interrupting the medication regimen. If INR is greater than 4, delay treatment until INR stabilises or refer if treatment is deemed urgent.

Antiplatelets

For patients taking antiplatelets, treatment may proceed without interruption of the medication scheduling. Expect prolonged bleeding in patients taking clopidogrel or on dual antiplatelet therapy, and consider staging extensive treatment, ensuring that local measures are undertaken.

Management of a bleed

1. Assess the patient

Ensure that the patient is haemodynamically stable, and cycle through ABCDE (airway, breathing, circulation, disability, exposure). Reassure the patient and reconfirm their medical and social history, recording what attempts the patient has made to control bleeding thus far and if blood has been ingested. If the patient is unstable or the airway is compromised, consider early referral to hospital.

2. Assess bleeding

Sit the patient upright and, with good lighting, use suction to remove excess blood, saliva and 'liver clots', utilising saline flush and forceps. Clot removal will allow better visualisation of the bleeding source (bone, soft tissue).

Clinical tip

Access is vital. Ensure a clear field with good suction, lighting and retraction of tissues if needed to help identify the source of the bleeding.

3. Control bleeding

Once the source is established, consider a combination of the following:

- infiltrations with local anaesthetic containing adrenaline;
- 20-30 minutes of firm pressure with saline/local anaesthetic + adrenaline/tranexamic acid-soaked gauze;
- pack socket with oxidised regenerated cellulose/haemostatic sponge (**Figure 2**);
- electrocautery of vessel;
- bone wax placement; and,
- tight sutures, e.g., 'figure of 8' technique, can be helpful.

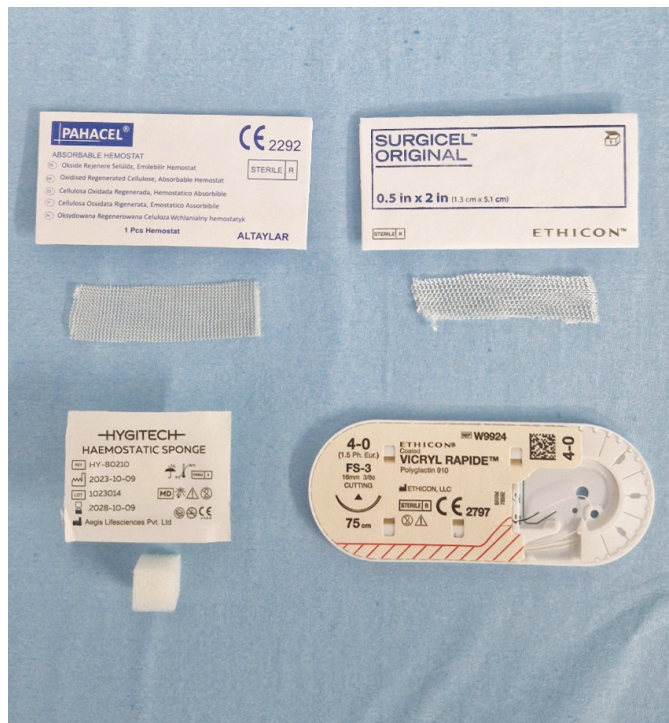


FIGURE 2: Local haemostatic agents.

Clinical tip

Use the suturing technique that works well in your hands. Multiple tight, simple, interrupted sutures are preferable to horizontal or vertical mattress sutures that are loose.

4. Referral and follow-up

If haemostasis cannot be achieved, the patient should be referred onwards to the emergency department for further management.

Final note

Dentists should undertake a comprehensive medical history, and ensure that haemostasis is achieved post extraction. Prolonged bleeding for more than 24 hours is abnormal, and time and patience need to be adopted initially when managing this. If in doubt, refer patients to the nearest emergency department and ensure that follow-up investigations are arranged in those with no prior bleeding history.

Reference

1. Scottish Dental Clinical Effectiveness Programme. Management of Dental Patients Taking Anticoagulants or Antiplatelet Drugs: Dental Clinical Guidance. Scottish Dental Clinical Effectiveness Programme, 2015.
<https://www.sdcep.org.uk/media/ypnl2cpz/sdcep-management-of-dental-patients-taking-anticoagulants-or-antiplatelet-drugs-2nd-edition.pdf>.