



**A CONSENSUS
STATEMENT ON THE
DENTAL TREATMENT
OF PATIENTS WITH
INHERITED BLEEDING
DISORDERS**

**Australian Haemophilia Centre Directors'
Organisation**

July 2010

Disclaimer

This document is a general guide to appropriate practice, to be followed subject to the clinician's judgment and the patient's preference in each individual case. The statement is designed to provide information to assist decision-making. The development of the statement commenced at the AHCDO Seminar held in Brisbane in October to which dental clinicians associated with Haemophilia Treatment Centres were invited and are based on consensus opinion at the time of compilation (July 2010).

These guidelines will be reviewed in 2013.

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1. Introduction

Responsibility for the dental management of patients with inherited bleeding disorders (Table 1) varies between Australian States and Territories and a number of organisations have developed local protocols for the provision of dental procedures in these patients.

Table 1. Common inherited bleeding disorders ^{1,2}

	Factor affected	Bleeding severity & factor levels
Haemophilia A ¹	Factor VIII levels decreased	Severe: < 1 IU/dL Moderate: 1–5 IU/dL Mild : >5–<40 IU/dL
Haemophilia B ¹	Factor IX levels decreased	Severe: < 1 IU/dL Moderate: 1–5 IU/dL Mild : >5–<40 IU/dL
Von Willebrand disease ²		
Type 1	VWF:Ag levels decreased	Variable, usually mild-to-moderate
Type 2	Dysfunctional VWF	Variable, usually moderate
Type 3	VWF absent	Severe (VWF:Ag undetectable, factor VIII <10 IU/dL)

VWF:Ag = von Willebrand factor antigen

Many of these are based on the Stubbs and Lloyd protocol published in 2001, ³ as recommended by the Australian Health Minister Advisory Council FVIII & FIX guidelines (2006), ⁴ but vary in their complexity and content. This consensus statement was developed in order to provide up-to-date advice regarding the bleeding risk and the possible need for systemic haemostatic therapy (e.g. replacement factor concentrates, desmopressin etc.) during the dental treatment of patients with inherited bleeding disorders. It does not provide detailed protocols for dental procedures in these patients.

The statement was developed following a meeting and extensive consultation, and the final document represents a consensus opinion of the listed authors and AHCDO members. The available literature and international guidelines were reviewed; however, there is little evidence-based data for many aspects of the dental care of patients with inherited bleeding disorders and some recommendations are therefore by necessity based on clinical experience and consensus opinion.

2. Overview of dental care in patients with bleeding disorders

Dental procedures, such as extractions and periodontal surgery, are associated with postoperative bleeding, which is generally self-limiting. However in patients with an inherited bleeding disorder (Table 1), relatively minor invasive procedures may precipitate prolonged bleeding. Excessive bleeding is distressing for both patients and clinicians, and can delay completion of the procedure, compromise wound healing and predispose to infection. The bleeding risk of a dental procedure varies with how easy it is to access the site and apply local haemostatic measures. For a simple extraction, local haemostatic measures, such as pressure or topical agents can usually be applied to the potential site(s) of haemorrhage. In contrast, there may be little or no access to bleeding sites following deep spatial or cavity surgery and some flap surgery.⁵

Some minor procedures with a low risk of bleeding can be performed without systemic haemostatic therapy; however, for the higher-risk procedures (extractions and oral surgery), appropriate systemic haemostatic cover may need to be considered and should be managed in consultation with a Haemophilia Treatment Centre (HTC) or haematologist. These decisions must take into account not only the nature and severity of the patient's bleeding risk but also the type, location and extent of the dental procedure, and the expertise and experience of the treating dentist.

Haemostatic protocols may use systematic therapies (when needed), together with suturing and additional local measures, such as the use Surgicel[®] (Johnson and Johnson, United Kingdom), Gelfoam[®] (Pharmacia and Upjohn, Michigan, USA), cyanoacrylate tissue adhesives, fibrin glue and splints, in conjunction with peri-operative antifibrinolytic agents, such as tranexamic acid mouth wash.⁵ These local techniques can enable oral surgery procedures to be undertaken without the need for any additional systemic haemostatic cover.^{6, 7}

Oral health care in patients with bleeding disorders should have a strong preventive focus. The prevention of dental disease, which is a vital component of oral care of these patients, has been adequately covered elsewhere,^{6, 8} so is not discussed in this statement. Adequate preventative measures and regular dental review examinations can reduce the need for remedial interventions and emergency procedures.

3. Responsibility for Dental Care

Ideally, the dental care requirements of all patients with inherited bleeding disorders should be assessed (both as a child and adult) initially in a Specialist Dental Service in consultation with a referring HTC. A Specialist Dental Service in conjunction with a HTC should continue to manage the dental care of patients with a severe bleeding tendency. However, the ongoing dental care for most patients with inherited bleeding disorders can be managed in the general dental practice environment.

Private general dental practice or community dental practice can perform routine dental care in consultation with the patient's haematologist, while specific dental advice can be sought from dentists associated with the regional HTC. For children, or adults with extensive oral disease, comprehensive oral treatment under general anaesthetic in consultation with a HTC should be considered.

Dentists involved in the care of patients with inherited bleeding disorders need to develop an understanding of the nature of the condition, the severity of the disease, and the previous response to treatment, in order to plan safe and effective dental care.

4. Treatment Considerations

4.1. Local anaesthesia and pain control

The use of local anaesthetics in patients with bleeding disorders should be discussed with a HCT/haematologist. Even submucosal infiltrations have the potential to cause haematomas in patients with severe bleeding disorders, although the risk is extremely low with modern single-use needles.

Oral injections of local anaesthetic pose varying degrees of risk for patients with inherited bleeding disorders. Typically, infiltrations can be used without systemic haemostatic cover.^{6, 9} A local anaesthetic with a vasoconstrictor should be used where possible because these provide additional local haemostasis.^{6, 10} Also, consideration should be given to the use of nitrous oxide-oxygen, and anxiolytic agents to assist with pain control when necessary.¹⁰

In patients with severe bleeding disorders, the use of regional nerve blocks, lingual infiltration and floor of mouth injections should be discussed with a HCT/haematologist. In the past, bleeding following deep nerve-block injections (inferior alveolar and posterior superior alveolar) has been implicated in airway obstruction due to haematoma formation in the retromolar or pterygoid space;^{6, 10} inferior alveolar nerve blocks are associated with a greater risk. The risk of haematoma is now however thought to be low with modern fine-gauge single-use needles. Nevertheless when possible, an alternative to nerve blocks, such as intraligamentous, or intrapapillary injections should be used.^{6, 10} The use of articaine may allow infiltrations to be used for lower molars.^{6, 9} When a nerve block is used, the haemostatic cover requirements may need to be considered. Significantly, a recent study found that additional factor support may not be required.⁷

Post-procedure dental pain can usually be controlled with a minor analgesic, such as paracetamol possibly in conjunction with codeine. Nonsteroidal anti-inflammatory drugs (NSAIDs), including aspirin, can adversely affect platelet aggregation. Aspirin should not be used, and the use of other NSAIDs should be discussed with the patient's haematologist.⁶ When appropriate, a long-acting local anaesthetic, such as bupivacaine hydrochloride (Marcaine™, AstraZeneca Australia) 0.5% with 1:200000 adrenaline, is a good option for postoperative analgesia. Long-acting local anaesthetics can give up to 8 to 10 hours of effective pain control. Patients, and particularly children (and their parents) should be warned of the risk of inadvertent postoperative self trauma, such as biting of their lip, cheek or tongues while the oral soft tissues are numb.

4.2. General Measures to Reduce Trauma

When undertaking any procedure in the mouth, damage to the oral mucosa should be minimised. Local trauma can be reduced during routine dental procedures with careful use of saliva ejectors and exercising care when taking impressions and placing of X-ray films, particularly in the sublingual region. Rubber dams and other techniques should be used to protect soft tissue during restorative procedures.⁶ In oral surgery, surgical techniques should be modified to minimise both intra-operative and postoperative bleeding.⁷

5. Treatments and Procedures

5.1. Periodontal treatment

Healthy periodontal tissue is essential to prevent bleeding and tooth loss. Treatment must start as soon as possible in patients with bleeding disorders who have poor oral hygiene and a treatment plan formulated to stop further damage to the periodontal tissues.⁶ Because of concerns about bleeding gums, patients with gingivitis are often reluctant to brush their teeth and this can lead to further deterioration of their periodontal health.

In patients with mild periodontal disease, routine supragingival scaling and polishing is unlikely to cause prolonged bleeding, and no specific interventions are required to reduce bleeding.⁹ If the gingival condition is poor, or the patient has a moderate or severe bleeding tendency, a 5% tranexamic acid mouthwash may be required for supragingival scaling and polishing. A HCT/haematologist should be consulted.

Management of patients with severe periodontal disease should be individualised and undertaken by a Specialist Dental Service in conjunction with a HTC/haematologist. Usually periodontal probing, supragingival scaling and polishing can be done without risk of significant bleeding. Ultrasonic instrumentation may result in less tissue trauma than hand scalers used subgingivally.¹⁰ For severely inflamed tissues, chlorhexidine mouthwashes and gross debridement are recommended to reduce tissue inflammation prior to subgingival scaling.¹⁰ Post treatment, 5% tranexamic acid mouthwashes are usually effective in controlling protracted bleeding.¹⁰ To prevent excessive bleeding, several visits may be needed to complete the treatment.⁶

Periodontal surgery in patients with inherited bleeding disorders is a high-risk procedure with significant risk of blood loss and should only be considered where conservative treatment has failed. Because it can be a greater challenge to haemostasis than a simple extraction, periodontal surgery must be carefully planned with the need for systemic haemostatic cover determined in consultation with a HTC/haematologist. The risks should be fully explained to the patient.⁶

5.2. Extractions and oral surgery

Surgical treatment, including a simple dental extraction, in patients with an inherited bleeding disorder must be planned to minimise the risk of bleeding, excessive bruising, or haematoma formation; these patients may require additional systemic haemostatic cover.⁶ Treatment plans, including the degree of factor cover if required, should be determined in close consultation between a dentist with experience in this field and the patient's

haematologist. Ideally, a Specialist Dental Service in consultation with a HTC/haematologist should undertake these procedures.

Prior to extraction, efforts should be made to reduce the local infection and inflammation with the use of topical antiseptics (chlorhexidine or povidone iodine), or antibiotics.⁶ Construction of a surgical stent may help to protect the surgical site during healing. Surgical techniques should be modified to minimise both intra-operative and postoperative haemorrhage. These measures include: limiting trauma (e.g. elective sectioning of difficult extractions, limiting the number of teeth to be removed at a time depending on the severity of the patient's factor deficiency); reducing the size of flaps; choosing surgical and closure techniques that permit easy access for packing, suturing and cautery; striving to obtain primary surgical closure; and removing all granulation tissue from areas of chronic inflammation.⁵ Although careful pre-operative planning will prevent many postoperative problems, post extraction bleeding may occasionally occur. If this occurs, consult the HTC/haematologist and consider using additional systemic haemostatic therapy.

Routine normal or assisted exfoliation of primary teeth does not require haemostatic cover. Persistent oozing and bleeding following the procedure should initially be managed with local measures, such as pressure and 5% tranexamic acid solution.

5.3. Restorative procedures

Routine dental restorative care, including crowns and bridges, is associated with a low risk of bleeding and can be carried out in general dental practice, provided guidelines for local anaesthetic use are followed.^{6, 8, 9} Consideration should be given to the use of appropriate minimal intervention techniques where indicated. Alternative instrumentation, such as air abrasion and hard tissue lasers may further reduce the need for local analgesia.

5.4. Orthodontic treatment and dentures

Fixed and removable orthodontic appliances may be used in patients with inherited bleeding disorders along with regular preventive advice and hygiene therapy.⁶ Special care should be taken to ensure that the gingiva is not damaged when fitting the appliance and to avoid sharp wires or edges which may traumatise mucosa or gingiva.

There is no contraindication to the use of full or partial dentures.⁶ Prosthetics are unlikely to cause problems provided care is taken to avoid tissue trauma during the fabrication process and the dentures are adjusted to avoid any over extension.

5.5. Endodontic treatment

Endodontic treatment is a low-risk procedure in patients with an inherited bleeding disorder.⁶ Pulpectomy and pulpotomy procedures can be performed routinely and are generally preferable to extraction. It is important that a pulpectomy is carried out carefully within the working length of the root canal, to ensure that the instruments do not pass through the apex of the root canal.⁶ Bleeding in root canal of a tooth with a closed apex suggests that there is pulp tissue remaining in the canal,⁶ or the apical has been perforated. In teeth with open apices, there is an increased risk of intracanal bleeding. Bleeding can usually be controlled with 4% sodium hypochlorite irrigation, and calcium hydroxide dressing of the root canal.⁶

Pulpotomy can be carried out in primary teeth according to accepted indications and contraindications. Electrosurgical coagulation of the pulp stumps or the use of ferric sulphate may assist with haemostasis.

6. Conclusion

Oral health is often poor in people with inherited bleeding disorders. Therefore early and ongoing dental care in this patient group is of particular importance in avoiding invasive procedures at a later date. This article aims to facilitate the delivery of routine dental care in this patient group by

providing information about the bleeding risk associated with procedures and encouraging collaboration between the treating dentist and the patient's haematologist.

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