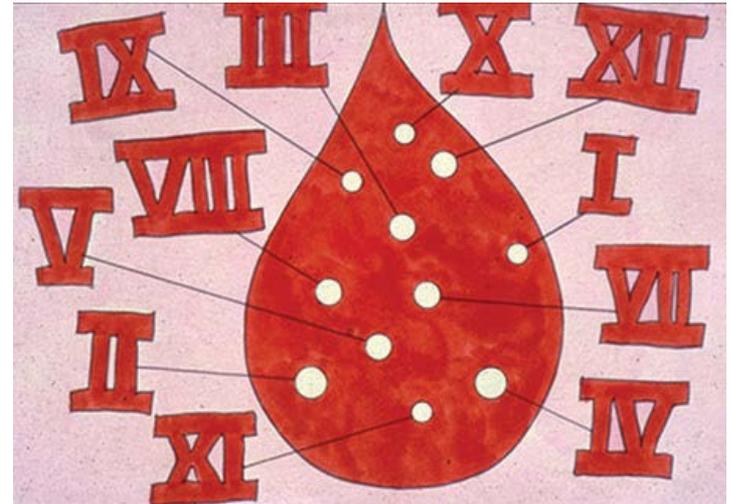


Bleeding Disorders in Voluntary Medical Male Circumcision

11 October 2017 | Jonas Hines



Bleeding Disorders in VMMC

- VMMC is the first medical procedure for many men
- A bleeding disorder may only become apparent after a medical or dental procedure, particularly among:
 - Young clients
 - Cases of mild bleeding disorders
- Caveat: mild or moderate bleeding disorders are not an absolute contraindication to VMMC

Differential Diagnosis of Uncontrolled Bleeding in VMMC

- **Bleeding vessel**
 - Common near frenulum
 - May occur after trauma and displacement of previously ligated vessel
- **Overly deep dissection, with injury to corpus cavernosa erectile body**
- **Bleeding disorder**
 - Platelet disorder
 - Coagulation factor disorder (“coagulopathy”)

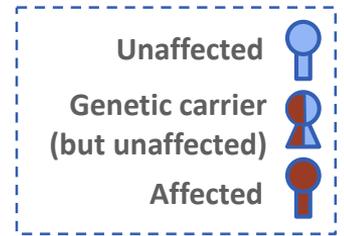
Differentiating Bleeding Disorder and Bleeding Vessel

Features	Bleeding disorders	Bleeding vessels
Timing	shortly after surgery (within 6–48 hours)	Any time after surgery, up to days later
Client history	May report personal or family history of easy bleeding	May report trauma or early resumption of sex or masturbation
Clinical appearance	No bleeding vessel identified on exploration	Identifiable bleeding source or vessel
Clinical course	Tend to recur after exploration	Usually controlled with sutures

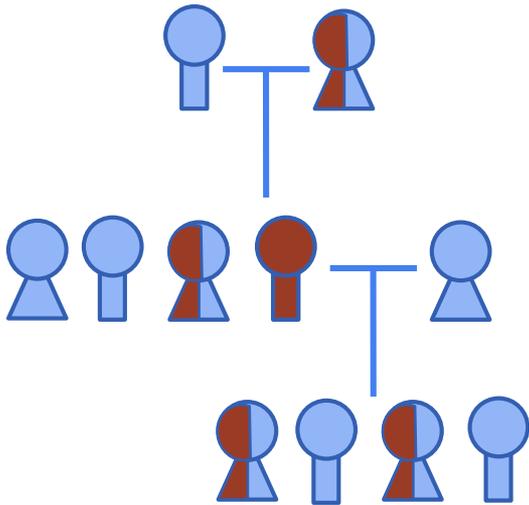
Common Bleeding Disorders

Disorder	Defect	Inheritance pattern	Frequency
von Willenbrand disease	Platelet dysfunction & impaired coagulation	Autosomal dominant; can also be acquired	~1% of pop
Hemophilia A Hemophilia B	Deficiency of coagulation factor VIII or IX	X-linked recessive	Rare; ~1–4 per 100,000
Thrombocytopenia	Low number of platelets	Many causes; inherited and acquired	Varies
Vitamin K deficiency	Impaired liver synthesis of coagulation factors II, VII, IX, X	Multiple causes (malnutrition, liver disease); usually acquired	Varies

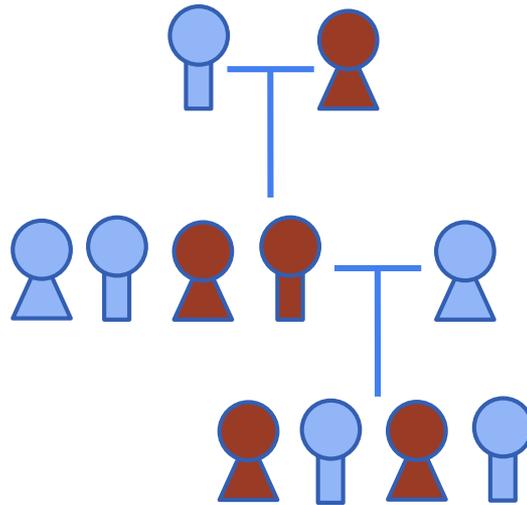
Example of Inheritance Patterns



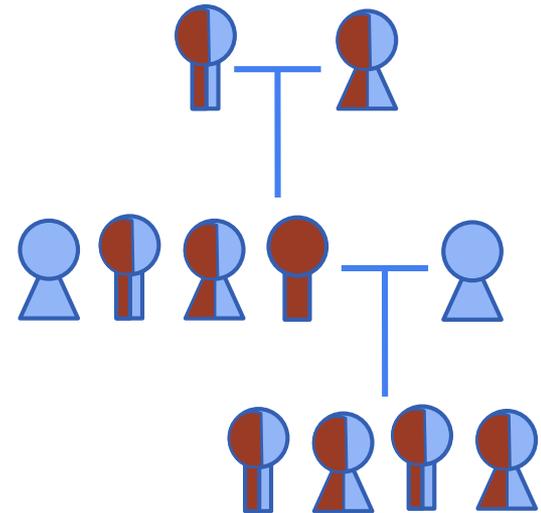
X-linked recessive



Autosomal dominant



Autosomal recessive



Screening Questions for All VMMC Clients

- Personal history
 - Easy nose bleeds, bruising
 - Swollen, painful joint after minor injuries
- Family history
 - Look for clue in inheritance pattern
- Prior medical or dental procedures
 - Note any complications from prior procedures
- Medication history
 - Aspirin, ibuprofen, warfarin, certain antibiotics



Provider Verbal Pre-Screening Questions for Voluntary Medical Male Circumcision

INSTRUCTIONS TO PROVIDERS:

- These questions are intended to identify conditions that may not be apparent through physical screening but could still compromise the safety of VMMC.
- Please verbally ask the following questions **in addition** to performing physical screening of **all** voluntary medical male circumcision (VMMC) clients prior to performing circumcision, regardless of the circumcision method to be used.
- Questions should be asked even if a client or their guardian already completed a written form with similar information.
- If a client answers 'Yes' to any of the full questions below, please follow site policies or consult the senior on-site clinician to determine whether any further testing or referral to a specialized provider is needed before circumcision.

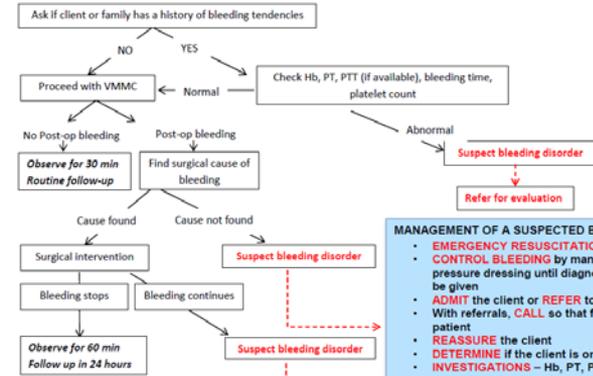
Check if answer is YES –

Consider further screening

1. Do you have any current or past conditions, or a chronic illness that we should be aware of?	<input type="checkbox"/>
2. Are you currently taking any medications or vitamins? If yes, please list them. (Consider further screening if client cites medications other than over-the-counter analgesics)	<input type="checkbox"/>
3. Are you allergic to any medicines?	<input type="checkbox"/>
4. If administering tetanus toxoid: Have you ever a bad reaction to a vaccine?	<input type="checkbox"/>
5. Have you had any previous operations? If yes, did you have a bad reaction to anaesthesia ?	<input type="checkbox"/>
6. Have you ever experienced wounds that take a long time to stop bleeding?	<input type="checkbox"/>
7. Have ever visited the dentist? If yes, have you experienced bleeding for a long time after a dental procedure?	<input type="checkbox"/>
8. Have you ever had nose bleeds? If yes, please describe how often and how long they last.	<input type="checkbox"/>
9. Do any of your family members have bleeding disorders (example: haemophilia), nose bleeds, or wounds that take a long time to stop bleeding?	<input type="checkbox"/>
10. If site has a blood glucose monitor AND a policy on maximum blood sugar for same-day VMMC: Do you have diabetes?	<input type="checkbox"/>
11. Have you ever been diagnosed with anemia or told you have low iron in your blood?	<input type="checkbox"/>
12. If client is or has been sexually active: Do you have any concerns or problems with penile erection or any other concerns about sexual function? If not yet sexually active: Do you have any concerns about the health of your penis that you want to discuss?	<input type="checkbox"/>

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- Re-screen client for bleeding disorder
- Laboratory tests



MANAGEMENT OF A SUSPECTED BLEEDING DISORDER:

- **EMERGENCY RESUSCITATION** if in hypovolemic shock
- **CONTROL BLEEDING** by manual compression and/or pressure dressing until diagnosis and definitive treatment can be given
- **ADMIT** the client or **REFER** to a higher facility
- With referrals, **CALL** so that facility can get ready for the patient
- **REASSURE** the client
- **DETERMINE** if the client is on anticoagulant therapy
- **INVESTIGATIONS** – Hb, PT, PTT, bleeding time, platelet count, blood type and crossmatch
- **BLOOD TRANSFUSION** if hypotensive since Hb may be normal after acute bleeding
- **MANAGE** according to the cause—e.g., Vitamin K, clotting factors, FFP, platelet transfusion etc.

Type of test	What it measures	Notes
Hemoglobin	Amount of red cells	Tests for anemia
Platelets	Number of platelets	Test for thrombocytopenia
PT/aPTT	Coagulation cascade	aPTT elevated in Hemo A & vWD
Bleeding time	Platelet function	Might be elevated in vWD
Blood smear	Shape of cells	Clue as to cause of low RBC or platelet

*Blood sample should be collected prior to administering blood product

- Post-operative triage and management

Immediate Management of Bleeding Immediately after VMMC

- Stay calm
- Manual pressure
 - Apply pressure to the circumference of penis
 - Maintain for as long as necessary
 - Bleeding not controlled by a manual pressure requires re-operation or referral
- Monitor the client's blood pressure and heart rate for any signs of shock
 - Signs of shock: HR >100 bpm, systolic BP <100 mmHg
- Plan for definitive management

Definitive Management of Bleeding in VMMC

- **Re-explore wound if sufficient expertise available**
 - If bleeding source identified, control with suturing or diathermy
 - Do not use diathermy if source of bleeding is near frenulum
 - Refer client if re-exploration at VMMC site is not possible
- **Suspect a bleeding disorder if:**
 - Unable to identify a bleeding vessel or bleeding occurs from many areas
 - Re-exploring a wound more than once is unlikely to benefit a client and may worsen bleeding
 - Client has >1 bleeding episode
- **Consultation and referral is warranted if a bleeding disorder is suspected**

Common Blood Products

Product	Contains	Notes
RBCs	Red blood cells	If client is anemic from bleeding
Platelets	Platelets	If platelets are low
Fresh frozen plasma (FFP)	All coagulation factors	Treats most coagulopathies; widely available
Cryoprecipitate	Factors VIII, XIII, fibrinogen, and vWF	Treats vWD and hemophilia A
Prothrombin complex concentrate (PCC)	Factors II, VII, IX, and X	Treats hemophilia B and other rarer BDs; expensive
Activated PCC or recombinant coagulation factor concentrates (e.g., FEIBA, NovoSeven)	Specific coagulation factors (e.g., VIII)	Used for specific BDs and when inhibitors are present; do not treat vWD; expensive and may have to be imported

Antifibrinolytic Medications

- Tranexamic acid, aminocaproic acid
- Reduces enzymes that breakdown fibrin (main component of a clot)
- Evidence from traditionally circumcising countries for use in hemophiliac patients undergoing circumcision
- Evidence of reduced death when used in post-partum hemorrhage and trauma victims
- Appear most effective if administered early (e.g., <3hrs)
- Low risk (<1%) of thrombosis (blood clot) formation as a complication
 - Risk of thrombosis if used with activated factors products
- IV formulations are on the WHO essential medicines list

Summary

- VMMC is commonly the first medical procedure for many clients
- Uncontrolled and severe bleeding is an uncommon complication of VMMC
 - Bleeding disorders are a rare cause of severe bleeding
- All clients should be screened for bleeding disorders prior to VMMC
- Bleeding that recurs in a client should trigger consideration of a bleeding disorder
- Clients with suspected bleeding disorders should be closely managed by an experienced provider
- Appropriate management of clients with suspected bleeding disorders can minimize morbidity and mortality

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Discussion Questions

- **What are your experiences managing patients with difficult-to-control bleeding?**
- **What have been some useful lessons learned by your program from managing clients with suspected bleeding disorders?**
- **Does your program have adequate access to expert consultation if a bleeding disorder was suspected in a VMHC client?**
- **Would it be helpful to connect implementing partners with national hemophilia associations to establish a line of communication for clients needing expert advice and help getting specialized blood products?**
- **Is tranexamic acid available in your country? Do you see a potential role for it?**

Thank you!!

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

