



# BLOOD TRANSFUSION HISTORY:

EFFECTS ON DENTAL PATIENT MANAGEMENT  
AND CONSIDERATIONS

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# Blood Transfusion: Brief Description

- A blood transfusion is a common procedure in which the patient receives donated blood through an intravenous (IV) line inserted into one of their blood vessels.
- Blood transfusions are used to replace blood lost during surgery or a serious injury. Transfusions are also done for persons whose bodies do not make blood [components] properly due to a preexisting illness. Patients with systemic conditions may receive multiple blood transfusions, possibly continually throughout their lifetimes.



# Conditions/Procedures sometimes requiring blood transfusions

- Sickle Cell Anemia
- HIV/AIDS
- Sepsis
- Chronic renal failure
- Leukemia (radiation or chemotherapy)
- Hemophilia
- Organ transplant
- Cesarean birth
- Other major operations





# Pre-treatment Considerations

- Medical consult—patient must be considered to be in stable condition.
- Contraindications may be present in a patient who has received a blood transfusion(s) due to the condition that warranted a transfusion and/or conditions that arose due to the transfusion.
- Some patients may need transfusions prior to some dental procedures. This may lead to treatment delays and/or modifications.
- Patient abnormal hemoglobin count must be 40% or less before dental surgery.
- Pre-treatment antibiotics may be recommended for major surgical procedures to prevent wound infection.



# Adverse Reactions of Blood Transfusions

- Rejection of transfusion
- Hepatitis B, C
- HIV
- Bacterial contamination—bacterial endocarditis possible
- It is thought that receiving multiple transfusions diminishes the ratio of helper to suppressor lymphocytes and decreases the activity of Natural Killer cells.
- Other bloodborne illnesses/conditions

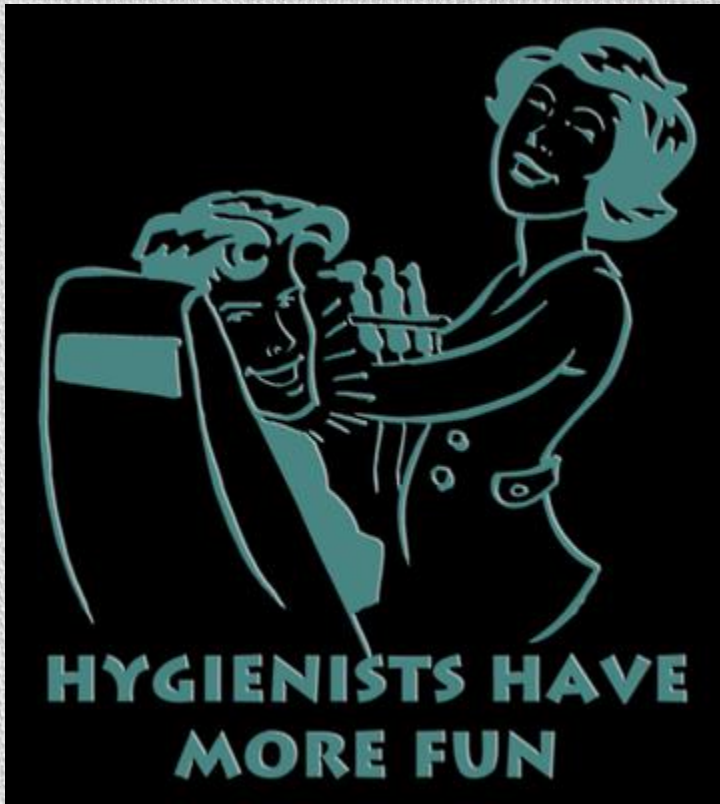


# Medical History Interview

- During the medical history review, it is important to identify conditions associated with blood transfusions and related patient disorders.
- The interview may provide contraindications for treatment, both transfusion-related and otherwise.
- Questions should be open-ended; “yes/no” type questions disallow the patient to elaborate on their past and present conditions. Important information may be revealed when the patient has the opportunity to describe their history themselves.



# Medical History Interview: sample questions



- “What was the reason(s) that you received a blood transfusion(s)?”

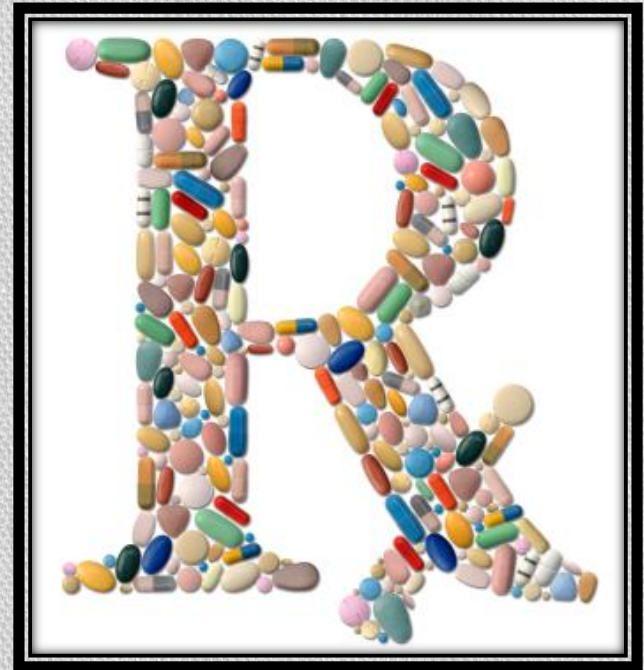
- “Were there any complications related to your transfusion? Please explain.”

- “Do you feel that your condition improved or worsened since the transfusion?”



# Medical History Interview: Medication Examples

- Patients with chronic renal failure may be using the anticoagulant Warfarin
- Lamivudine (reverse transcriptase inhibitor) is used to treat patients with chronic hepatitis B
- Agenerase (protease inhibitor) is sometimes prescribed for patients with HIV.



\*Medications taken by patients with a history of blood transfusions are dependent on current conditions, and therefore there is an extreme level of variability in prescriptions. Medication-related oral conditions are also variable.



# During Treatment

- When using nitrous oxide-oxygen for transfusion patients with blood disorders (such as sickle cell anemia), oxygen levels should be greater than 50% with a high flow rate and adequate ventilation to ensure that the patient receives enough oxygen to sufficiently supply their tissues, brain, and heart.
- Oral infection should be avoided as the patient's blood supply may be already compromised due to both the transfusions and [possibly] a complex medical history.
- Oral surgical procedures are at a high-risk for causing oral infections, antibiotic prophylaxis may be indicated.





# Medical Emergencies

Potential medical emergencies for patients who have received blood transfusions include issues related directly to the underlying cause for the need of a transfusion and related conditions. The clinician should be alert for anemia-related episodes and other issues involving low blood-oxygen levels. Monitoring the patient for changes in responsiveness, pallor, breathing rate, heart rate, and other signs of possible patient issues may help the clinician to prevent medical emergencies from occurring or worsening. Oxygen should be on hand in case of blood-oxygen level emergencies [and any other emergency]. Administration of oxygen, patient positioning, and the employing the ABCs of breathing are all helpful emergency management protocols.



# Dental Care Plan

- Recommend more aggressive home care
- Nutritional counseling
- Modify plans further according to patient medications, oral and health considerations.

For Example: those taking medications that cause xerostomia:

- Advise prescription of a salivary substitute
- Advise prescription of a muscarinic drug to stimulate salivary glands
- Chewing gum with xylitol



# Exam Questions

1) Donated blood used in transfusions does not put the patient at risk of disease exposure.

- a. True
- b. False

Answer: False

2) Fill in the blank: Abnormal hemoglobin count must be \_\_\_\_\_ or less before surgery is performed on a patient who has received a blood transfusion.

Answer: 40%

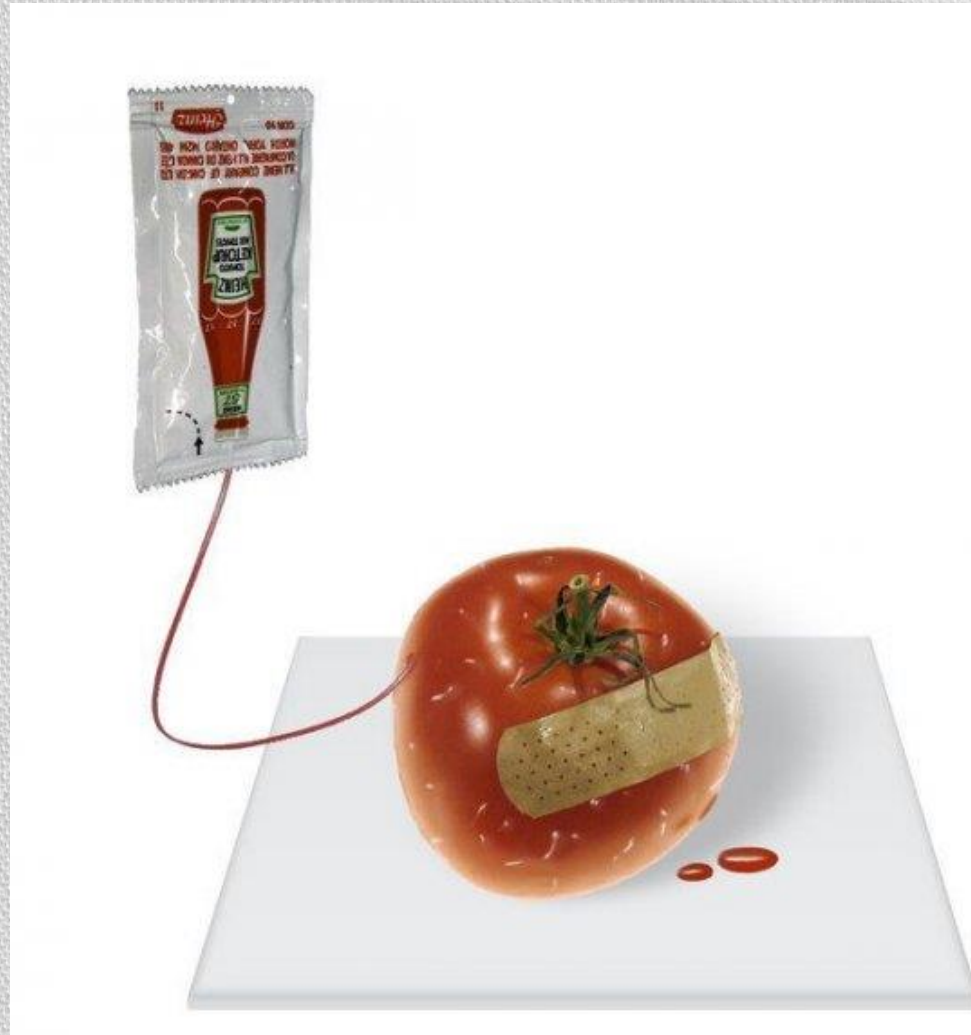
3) Blood transfusions may be indicated for persons with the following conditions (Select all that apply):

- a. Chronic renal failure
- b. Sickle Cell Anemia
- c. Chronic liver disease
- d. AIDS

Answer: A, B, D



Donate. Save lives.





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