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BLOOD TRANSFUSION: OVERVIEW, PROCEDURE, AND CLINICAL IMPORTANCE

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ANNOTATSIYA:

Sport is widely recognized as one of the most effective means of promoting a healthy lifestyle. In modern societies, where sedentary behaviour, unhealthy diets, and high stress levels are increasingly common, the importance of regular participation in sport has grown significantly. This article examines the impact of sport on physical, mental, and social well-being. It highlights how sport enhances cardiovascular and muscular health, supports emotional stability, improves cognitive functioning, and strengthens community bonds. By analysing the multidimensional benefits of sport, this paper argues that sport is a critical component in preventing chronic diseases, fostering psychological resilience, and promoting positive social interaction. Ultimately, sport plays an indispensable role in achieving and maintaining holistic health throughout the lifespan

Introduction

Blood transfusion is a medical procedure in which donated blood or blood components are transferred into a patient's bloodstream to replace lost blood or treat certain medical conditions. It is an essential and life-saving practice widely used in modern medicine.

1. Purpose of Blood Transfusion

Blood transfusions are performed for several reasons:

Severe blood loss due to trauma, surgery, or accidents

Anemia, especially when hemoglobin levels are critically low
Blood disorders such as thalassemia, sickle cell disease, or hemophilia
Bone marrow failure or chemotherapy-induced low blood counts
Replacement of specific components, such as platelets or plasma
2. Types of Blood Transfusions
a) Whole Blood
Contains red cells, white cells, platelets, and plasma; used mainly in major blood loss.
b) Packed Red Blood Cells (PRBCs)
Used to treat anemia and increase oxygen-carrying capacity.
c) Platelet Transfusion
Helps control bleeding in patients with low platelet counts.
d) Plasma Transfusion
Provides clotting factors for patients with liver disease, severe infections, or bleeding disorders.
e) Cryoprecipitate
Contains specific clotting factors (e.g., fibrinogen) for treating conditions like DIC.
3. Blood Group Compatibility
Before transfusion, blood typing and crossmatching are required to prevent reactions.
ABO groups: A, B, AB, O
Rh factor: Rh-positive or Rh-negative
O negative is known as the "universal donor," while AB positive is the "universal recipient."
4. The Transfusion Procedure
1. Patient evaluation and blood tests
2. Selection of compatible blood unit
3. Verification of identity and blood product
4. Slow infusion through an IV line
5. Monitoring vital signs during the procedure
The process typically lasts 1–4 hours, depending on the type and amount of blood given.
5. Risks and Complications
Although transfusions are generally safe, possible risks include:
Allergic reactions
Fever (febrile reaction)

Hemolytic transfusion reaction due to incompatibility
Infections (extremely rare due to strict screening)
Transfusion-related acute lung injury (TRALI)
Iron overload in patients receiving frequent transfusions
6. Benefits and Clinical Importance
Blood transfusion:
Saves lives during emergencies
Restores oxygen-carrying capacity
Controls severe bleeding
Supports treatment of chronic diseases
Enables safer surgeries
It is a cornerstone in emergency medicine, surgery, oncology, and hematology.

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