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M1 - Cardiovascular / Respiratory, Fall 2007

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Circulatory Derangements

II

HEMORRHAGE
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Escape of blood from the C-V system

-onto the floor

-into the tissues / body cavities
Clinical Patterns of Hemorrhage

- Petechiae – 1-2 mm. hemorrhages
- Ecchymoses- blotches / bruises
- Hematoma – a mass or lump of blood
- Hemothorax – blood in the pleural cavity
- Hemarthrosis – blood in a joint
- Hemopericardium, hematosalpinx, etc.
- Purpura – a condition of widespread cutaneous and mucosal hemorrhages
Petechiae

Source: The Journal of Young Investigators, 2008 (jyi.org)
Ecchymosis
Hematomas are collections of blood that accumulate between the skin and other tissues after an injury. They are commonly known as bruises. The color of a hematoma changes over time, typically progressing through four stages:

1. **Red**: This stage occurs immediately after the injury, and the area appears red due to the accumulation of red blood cells.
2. **Purple**: As the red blood cells break down, the area turns purple, indicating the presence of hemoglobin.
3. **Green**: This stage is characterized by the presence of greenish-yellow discoloration, which is caused by bilirubin, a breakdown product of hemoglobin.
4. **Blue**: In the final stage, the area becomes blue due to the formation of melanin from the breakdown of hemoglobin.

Hematomas can vary in size and location, and they are often painful and uncomfortable. Prompt medical attention is recommended for larger hematomas or those that occur in sensitive areas, such as the face or joints. The treatment for hematomas usually involves resting the affected area, applying ice to reduce swelling, and monitoring for signs of infection.
Purpura

Source: Undetermined
Hemostasis involves three components

• Blood vessels
• Platelets
• Coagulation system
Platelets
Bone Marrow
Megakaryocytes
Ecchymosis - Fresh
Ecchymosis - Resolving
Ecchymosis - Resolving
Erythrophagocytosis
Hemosiderin
Hematoidin
Hemosiderin & Hematoidin
Hemosiderin & Hematoidin
Iron Stain
Aspirated Blood
Pontine Hemorrhage
Cerebral Hemorrhage
Mycotic Aneurysm
Cerebral Hemorrhage
Hypertensive
Subdural Hematoma
Hemopericardium
Systemic Effects of Hemorrhage

- Exsanguination
- Shock
- Anemia of Chronic Blood Loss
Liver - Lacerations
Cecal Carcinoma