M1 - Cardiovascular / Respiratory, Fall 2007

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Circulatory Derangements

II

HEMORRHAGE
HEMORRHAGE

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
Hematoma
Purpura

Source: Undetermined
Hemostasis involves three components

- Blood vessels
- Platelets
- Coagulation system
Platelets

Source: Undetermined
Contact activation (intrinsic) pathway

Tissue factor (extrinsic) pathway

Damaged surface

Trauma

TFPI

Antithrombin

Common pathway

Prothrombin (II)

VIIIa

IX

IXa

VIIIa

X

Prothrombin (II)

Xa

Thrombin (IIa)

Fibrinogen (I)

Fibrin (Ia)

Cross-linked fibrin clot

Active Protein C

Protein S

Protein C + thrombomodulin

XII

XIIa

XI

XIa

VIII

VIIa

VII

V

Xa

Va

XIIIa

XIII

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Ecchymosis - Fresh
Ecchymosis - Resolving
Ecchymosis - Resolving
Erythrophagocytosis
Hemosiderin
Hemosiderin & Hematoidin
Hemosiderin & Hematoidin
Iron Stain
Aspirated Blood
Cerebral Hemorrhage
Mycotic Aneurysm
Cerebral Hemorrhage
Hypertensive
Cerebral Hemorrhage
Thrombocytopenic
Hemopericardium
Hemopericardium
Systemic Effects of Hemorrhage

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