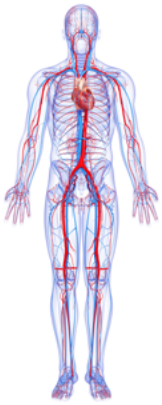
Disseminated Intravascular Coagulopathy (DIC)

Disseminated intravascular coagulation (DIC) is a serious condition which causes both excessive blood clotting and excessive bleeding.

Signs and symptoms associated with DIC include:

- **Uncontrolled bleeding** from ears, nose, throat, gastrointestinal tract or respiratory tract, intravenous access sites, cannula and catheter sites.
- **Skin abnormalities**: petechiae (rash) , purpura, haemorrhagic bullae (blood filled blisters), purpura fulminans (skin necrosis of lower limbs), acro-cyanosis (blueish discoloured extremities), thrombosis, localised infarction and gangrene
- **Haematuria** (blood in the urine)
- **Haemoptysis and ARDS** (Acute Respiratory Distress Syndrome)
- **Abdominal distention**
- **Bleeding from multiple organs** (Renal failure, hepatic dysfunction, acute lung injury)
- **Confusion or disorientation**
- **Signs of occult haemorrhage** (headache, restlessness, confusion, lethargy and altered mental status)
- **Cardiovascular compromise** (tachycardia with hypotension)
- **Chest pain and shortness of breath**



Assessment and initial management

If you recogonise the signs and symptoms of acute DIC in a patient, take action without delay.

Complete an assessment of the patient:

- Assess severity, duration and speed of onset of symptoms.
- Assess, monitor and document the extent and sites of bleeding and thrombosis.
- Assess and monitor vital signs.

Immediate nursing interventions

- Initiate intravenous fluid resuscitation to support blood pressure
- Control active bleeding
- Apply oxygen
- Assess, monitor and document sites of bleeding or cyanosis
- Place the patient in the Trendelenburg position (elevate legs)
- Establish immediate venous and /or arterial access
- Include supportive measures as directed by the physician
- Communicate and educate the patient, carer and family

Investigations and diagnosis

A full medical history and clinical examination should be performed to:

- identify any underlying cause for the DIC
- identify any potential thrombotic or haemorrhagic consequences.

Blood laboratory investigations should include:

- full blood count including platelet count
- coagulation studies including prothrombin time (PT-INR) activated partial thromboplastin time (aPTT), D-dimer and fibrinogen level
- other as clinically indicated to investigate the underlying causes*

DIC scoring system

Download a printable copy of the **DIC scoring system**

Treatment and management

DIC will not improve until the underlying cause or trigger is treated. Do not delay treatment, support coagulation and vital organ function.

Management of DIC recommendations

Fresh Frozen Plasma (FFP)

- For use in bleeding and abnormal coagulation.
- 10 - 15mLs /kg rapid infusion.

Platelets

- For use when clinical bleeding and thrombocytopenia are major contributory factors.
- 1 - 2 adult doses usually required.

Cryoprecipitate (fibrogen in a concentrated form)

- For use in fibrinogen deficiency.
- When fibrinogen is < 1.0g/L and clinical bleeding is present.
- Infuse to keep fibrinogen > 1g/L.

Thrombotrol-VF:

- May play a role in the management of patients who do not respond to simple blood component replacement.
- Under haematologist instruction only.

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