# **Transfusion Guidelines**

The following guidelines represent evidence-based recommendations for transfusion in various clinical scenarios.

In most situations, single unit transfusion is appropriate. Evaluate response to transfusion before ordering additional units.

**RED BLOOD CELL**

**Consider red blood cell transfusion for:**

***Hemoglobin less than 7 g/dL and:***

* Symptomatic anemia 1-3
* STABLE ischemic heart disease and signs or symptoms of anemia unresponsive to management without transfusion 4-6
* Acute upper gastrointestinal hemorrhage 7
* Sepsis5
* Bone marrow suppression due to chemotherapy and/or radiotherapy 8-14

***Hemoglobin less than 8 g/dL and:***

* Acute coronary syndrome 3,15,16
* Bone marrow suppression or failure **and** long-term transfusion dependency 12-14,17,18

***Hemoglobin less than 9 g/dL:***

* In a sickle cell anemia patient undergoing surgery to bring the hemoglobin to 10 g/dL 19,20

## PLATELET

**Consider platelet transfusion for:**

***PROPHYLACTIC use with a platelet count:*** 21-27

* Less than **10,000/mm3** in a stable patient with hypoproliferative thrombocytopenia (marrow failure or suppression)
* Less than **20,000/mm3** in a stable patient with hypoproliferative thrombocytopenia (marrow failure or suppression) **and** presence of minor bleeding (WHO Grade 2 or higher) 28

***PERI-PROCEDURAL use for:***

* **Bone marrow biopsy:** may be performed regardless of platelet count 29
* **Central line placement**: platelet count less than **20,000/ mm3 30**
* **Endoscopy or bronchoscopy *without* biopsy**: platelet count less than **25,000/ mm3** 31
* **Paracentesis or thoracentesis**: platelet count less than **25,000/ mm3** 32
* **Vaginal delivery**: platelet count less than **30,000/mm3** 33
* **Lumbar puncture (diagnostic)**: platelet count less than **40,000/ mm3** 29,34
* **Percutaneous or endoscopic organ biopsy (e.g. liver, kidney), nephrostomy, arteriotomy, dental extraction**: Platelet count less than **40,000/ mm3** 29,32
* **General surgery and Gynecological surgery (including C-sections)**: platelet count less than **50,000/mm3** 21,35
* **Epidural catheter insertion or removal**: platelet count less than **80,000/ mm3** 29,34,36
* **Neurosurgery or retinal surgery**: platelet count less than **100,000/ mm3** 31,35,37-40
* **Proven significant congenital or acquired platelet functional defect except uremic platelet dysfunction that may be adequately treated with DDAVP** 40,41

***THERAPEUTIC use for:***

* **Post-surgical or post-procedural bleeding**: platelet count less than **50,000/mm3** 29,42
* **Significant non-procedure related bleeding**: platelet count less than **50,000/mm3** 29,42
* **Cardiac surgery with unexpected bleeding**: platelet count less than **80,000/mm3** 29,43,44
* **Massive hemorrhage protocol or massive transfusion protocol**: by protocol if actively bleeding or platelet count less than **80,000/mm3** 42
* **Neuroaxial bleeding**: platelet count less than **100,000/mm3** 31,35,37-40,45,46
* **Bleeding and laboratory evidence of abnormal platelet function**

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