

Manual platelet count



Manual platelet counts

Platelet counts can be done manually with a commercial diluting system, hemocytometer, and a microscope. These counts are less accurate than automated counts, because platelets can be difficult to distinguish from debris. Platelet clumping will also decrease the hemocytometer platelet count.

Platelet count estimates from a blood smear examination

In a well-prepared smear, platelets are estimated by counting the average number of platelets seen per 100x oil immersion field in the monolayer. In general, 10 oil immersion fields are counted and the results averaged (this accounts for uneven dispersal of platelets in the smear). Then the following formula is applied (this is a rough guide):

$$\text{Estimated platelet count}/\mu\text{L} = \text{average count in 10 fields} \times 15,000$$

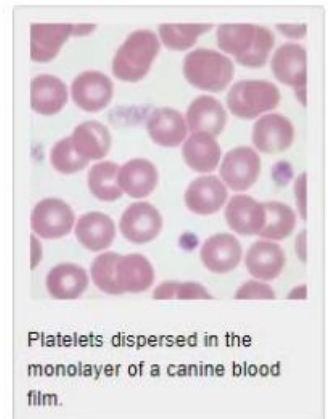
For example, if an average field contains 7 platelets, an estimate of 105,000/ μL would be appropriate. This value would then be compared to the normal range for the species in question; 105,000/ μL would be "low" (below reference intervals) for a dog, but "adequate" (or within reference intervals) for a horse.

At Cornell University, we provide a semi-quantitative estimate of platelet numbers which are based on reference intervals for the species in question (if available) as follows:

- **Increased (Incr.):** The count is above the reference interval for the species.
- **Adequate (Adeq.):** The count is within the reference interval for the species.
- **Low?:** The count is within the low end of the reference interval for the species or may be mildly decreased (i.e. the count is "equivocally low").
- **Low:** The count is below the reference interval for the species.
- **Very low:** The platelet count is below a medical decision limit associated with spontaneous hemorrhage, i.e. <30,000/ μL .



Hemocytometer



Platelets dispersed in the monolayer of a canine blood film.