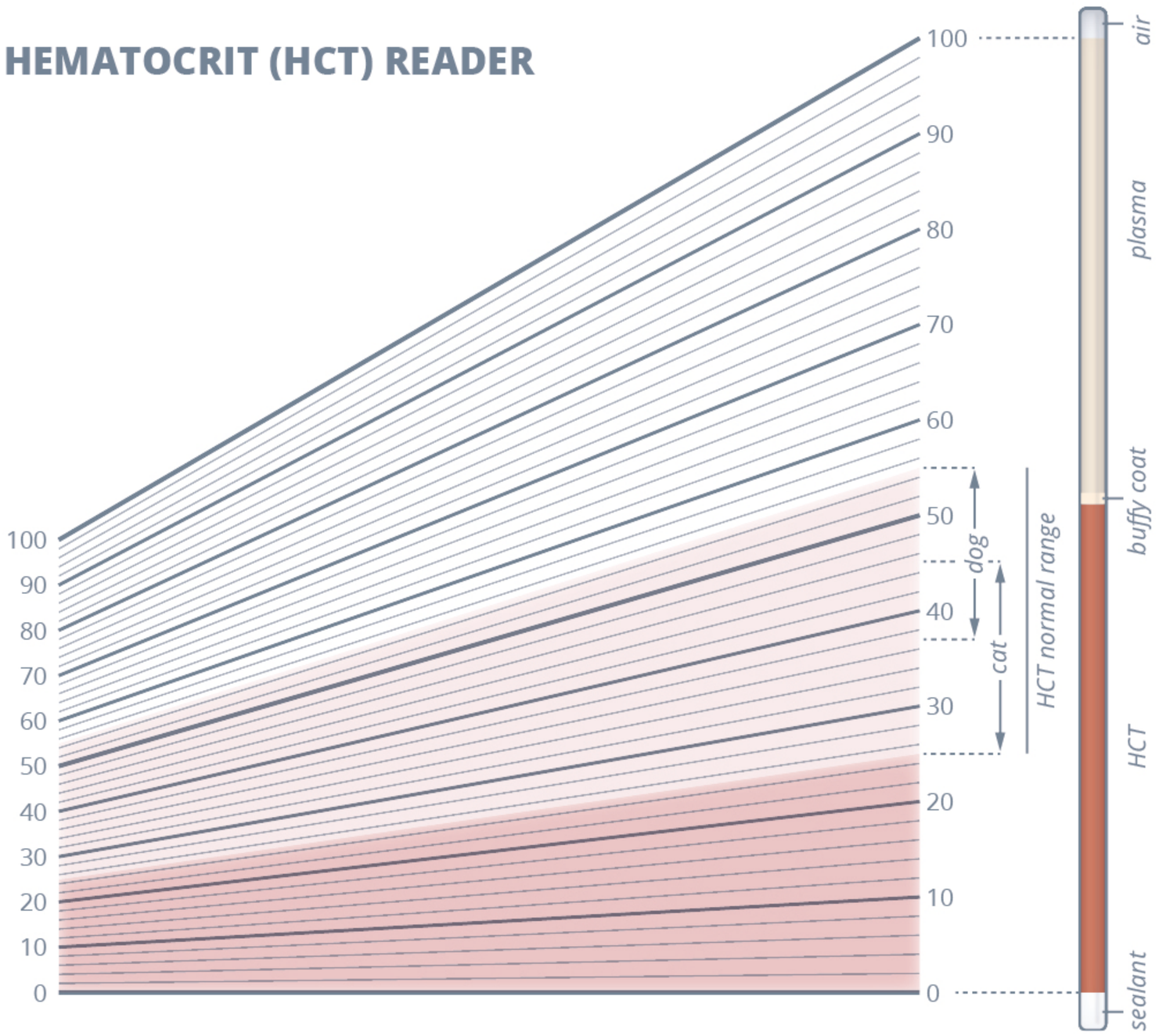
PCV & TP

HEMATOCRIT (HCT) READER



HCT* TUBE APPEARANCE

Plasma color

- ***lipemic (white)*** *pancreatitis, postprandial lipemia, hyperadrenocorticism, diabetes mellitus, hypothyroidism*
- ***hemolyzed (red)*** *poor collection, intravascular hemolysis*
- ***icteric (yellow)*** *pre-hepatic, hepatic, post-hepatic*

Large buffy coat

- *increased WBC*
- *bone marrow neoplasia*

** HCT is equivalent to PCV but expressed as a percentage*

ALTERATIONS IN PACKED CELL VOLUME (PCV) & TOTAL PROTEIN (TP)

PCV	TP	Interpretation
↑	*Normal*	*Polycythemia (rare), splenic contraction, dehydration with hypoproteinemia†*
↑	↑	*Dehydration, acute fluid shift*
↑	↓	*Dehydration with hypoproteinemia†, hemorrhagic gastroenteritis, splenic contraction after hemorrhage*
Normal	*Normal*	*Normal hydration, acute hemorrhage before fluid shifting*
Normal / ↑	↓	*Hypoproteinemia†, splenic contraction after hemorrhage*
Normal	↑	*Anemia with dehydration, normal hydration with hyperproteinemia‡ / hyperglobulinemia*
↓	*Normal*	*Chronic RBC destruction or ↓ production due to bone marrow disorders or anemia of chronic disease, hemolytic anemia (if hemolyzed or icteric plasma)*
↓	↓	*Hemodilution after aggressive fluid therapy, fluid resuscitation post-hemorrahge*
↓	↑	*Severe anemia with dehydration, ↓ RBC production due to bone marrow disorders, lymphoproliferative disease*

† Hypoproteinemia due to protein loss (GIT, renal) / ↓ production (liver)

‡ Hyperproteinemia due to artefacts (lipemia)

MiniVet Guide by **Dr Gerardo Poli** | Illustrations © Diogo Guerra, medical illustrator

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