Bicarbonate (Serum)

Description	Part of U&E Profile
Indication	Bicarbonate determination is useful in interpreting acid-base status.
Additional Info	Total CO_2 is measured in lieu of serum bicarbonate. This includes the serum bicarbonate and additional forms of CO_2 (i.e. dissolved CO_2 and carbonic acid). Generally, serum bicarbonate is 95% of total CO_2.
Concurrent Tests	Arterial blood gas
Dietary Requirements	N/A
Interpretation	Serum bicarbonate is a measured determination whereas a blood gas machine reports a standard bicarbonate calculated from pH and pCO_2 using the Henderson-Hasselbalch equation. Differences may occur between serum bicarbonate and standard bicarbonate due to venous and arterial variation and the additional forms of dissolved CO_2 measured in the serum bicarbonate assay. Decreased in metabolic acidosis (e.g. DKA) and in compensation of respiratory alkalosis (over breathing). Raised in metabolic alkalosis and in compensated respiratory acidosis. May be an artefactual decrease in serum bicarbonate when samples are delayed in transit or are of small volume (due to loss of CO_2 into atmosphere).
Collection Conditions	N/A
Frequency of testing	As required