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### Differences between the anaesthetic state and natural sleep

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The anaesthetic state and natural sleep share many neurobiological features and yet are two distinct states. The hallmarks of general anaesthesia include hypnosis, analgesia, akinesia, and anxiolysis. These are the principal parameters by which the anaesthetic state differs from natural sleep. These properties are mediated by systemic administration of a combination of agents producing balanced anaesthesia. The exact nature of anaesthetic narcosis is dose dependent and agent specific. It exhibits a relative lack of nociceptive response and active suppression of motor and autonomic reflexes. Surgical anaesthesia displays a signature EEG pattern of burst suppression that differs from REM sleep, representing more widespread disruption of thalamo-cortical connectivity, impairing information integration and processing. These differences underpin successful anaesthetic action. The following is a comprehensive discussion of the differences between natural sleep and anaesthetic induced unconsciousness as induced by balanced anaesthesia.

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