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## **Monitoring anesthesia: Optimizing monitoring strategies to reduce adverse effects of anesthetic drugs on ventilation**

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# Monitoring Anesthesia

## Optimizing Monitoring Strategies to Reduce Adverse Effects of Anesthetic Drugs on Ventilation

1. Multiple signals of autonomic activity can be applied to detect noxious events and combined use outperforms currently measured variables such as heart rate and blood pressure.  
- This Thesis
2. Rocuronium exhibits antagonistic activity at the acetylcholine receptors in the carotid bodies at clinically relevant plasma concentrations  
- This Thesis
3. Reversal of rocuronium- induced neuromuscular block occurs more slowly in the carotid body than at the neuromuscular junction.  
- This Thesis
4. Monitoring return of neuromuscular function by train-of-four ratio at the m. adductor pollicis can overestimate a patient's capacity to increase ventilation in response to hypoxia.  
- This Thesis
5. Detection of postoperative respiratory disturbances with a non-invasive respiratory monitor can lead to altered clinical decision-making.  
- This Thesis
6. If neuromuscular recovery is not achieved, then we can be confident that the ventilatory response to hypoxia has also not recovered  
- Pandit JJ, Eriksson LI. Reversing neuromuscular blockade: not just the diaphragm, but carotid body function too (editorial to Broens et al). *Anesthesiology*. 2019;131(3):453-5.
7. The inseparability of anesthesia from the total care of the surgical patient is to us the compelling reason why surgeon and anesthetist, engaged as they are in a common task, cannot with profit pursue separate goals.  
- Beecher, Todd D. A study of deaths associated with anesthesia and surgery. Based on a study of 599,548 anesthetics in ten institutions 1948-1952, inclusive. *Ann Surg* 1954; 140(1):2-35.
8. The medical professional cannot estimate correctly whether or not the patient is liable to pain, by mere observation. Their diagnoses and prognoses are generally arrived at by a mental operation, and not by the observation of some certain sign.  
- Jon Snow. On the inhalation of the vapour of ether in surgical operations: containing a description of the various stages of etherization. London, John Churchill, Princess Street, Soho. 1847.
9. Unfortunately, the times are relatively few when one can obtain proof that any drug has killed a given patient. [...] In this as in other fields in medicine one is obliged to draw inferences as sound as [one] can from the available data. Many, one could say most, of the advances in medicine have been based upon exactly that procedure.  
- Beecher, Todd D. A study of deaths associated with anesthesia and surgery. Based on a study of 599,548 anesthetics in ten institutions 1948-1952, inclusive. *Ann Surg* 1954; 140(1):2-35.
10. Goed gebruik van monitoring vereist dat we niet vergeten dat de werkelijkheid niet alleen maar bestaat uit de schaduwen van de dingen.  
- Naar: Plato, de allegorie van de grot. *Politeia* 380 BC
11. Je kunt iets zeker weten, maar je kunt niets zeker meten
12. Ceci n'est pas une 'piep'  
- Naar: Magritte 1928-1929