

TIVA is Recommended for all SSEP and TcMEP Cases

- ✓ Narcotics (e.g. remifentanyl or fentanyl etc.)
- ✓ Sedation (e.g. propofol or midazolam etc.)

- ✓ Muscle relaxant only for induction
- *No inhalation gases

Inhalation Agents	M.A.C.	M.A.C w/ 60-70% N2O	Effect on SSEP	Effect on TcMEPs
Nitrous Oxide	104%		Detrimental	Significant dose dependent ↓ in amplitude
Isoflurane	1.15%	0.50%	Dose dependent decrease in amplitude and increase in latency	
Desflurane	6.00%	2.83%		
Sevoflurane	1.71%	0.66%		

*If inhalation gases must be used it is recommended they be kept at 0.5 MAC or less for TcMEP

Neuromuscular Blockers	Length of action	Mechanism of Action	Effect on SSEP	Effect on TcMEP
Succinyl-choline	15-20 min	Depolarizer		Abolish or decreases responses
Mivacurium (Mivacron)	25-30 min	Non-depolarizer		
Atacurium (Norcuron)	30-60 min			
Cis-Atacurium (Nimbex)				
Rocuronium (Zemuron)				
Panuronium (Pavulon)	60-90 min			

IV Anesthetic Agents	Type	Effect on SSEP	Effect on TcMEP
Propofol (Diprivan)	Sedative	Decrease in amplitude and increase in latency	↓ Amplitude
Dexmetomidine (Precedex)	Sedative + analgesia		
Etomidate (Amidate)	Sedative	Increases amplitude and latency	↑ Amplitude
Ketamine	Sedative + analgesia		

Narcotics (analgesia)	Length of action	Effect on SSEP	Effect on TcMEP
Remifentanyl	3-10 min	Mild decrease in amplitude and increase in latency (dose dependent)	
Alfentanyl	15 min		
Fentanyl	30-60 min		
Sufentanyl			
Morphine	4-6 hrs		

Benzodiazepines (sedation + amnesia)	Length of action	Effect on SSEP	Effect on TcMEP
Midazolam (Versed)		Decrease in amplitude and increase in latency (dose-dependent)	↓ Amplitude
Diazepam (Valium)			
Lorazepam (Ativan)			
Clonazepam (Klonopin)			

* The information contained on this document is meant as a general guide and is compiled from a variety of sources. It is not considered complete and users need to update and verify the content or use at their own risk.

