

Cost Saving Calculations

Traditional Anaesthesia vs. Low Flow with Darvall Stinger Ultra and Darvall DVM Vaporiser

Isoflurane	Traditional	Darvall Low Flow	Saving
Oxygen			
Oxygen (ml/kg/min)	200	30	
Average patient weight (kg)	7	7	
Anaesthetic duration (mins)	60	60	
Oxygen/case - 1 hour duration (L)	84	13	71
Cases per year	1,200	1,200	
Oxygen per year (L)	100,800	15,120	85,680
E cylinders (680L)	148	22	126
Cost of E cylinder	£ 16.00		
Oxygen Cost	£ 2,371.76	£ 355.76	
Oxygen saving			£ 2,016.00
Inhalation Agent - Isoflurane			
Iso%	2	2	
Iso vapour (L) per year (1 hour average anaesthetic)	2,016	302	
Iso liquid (L) per year*	10	2	9
Iso bottles (250ml) per year	41	6	35
Retail cost of iso (per 250ml bottle)	£ 15.29	£ 15.29	
Cost of iso in a year	£ 632.30	£ 94.85	
Isoflurane savings			£ 537.46
Vaporiser Service			
Number of services per 10 years	10	1	9
Cost of service	£ 140.00		
Service saving per year			£ 126.00
Total savings per year			£ 2,679.46

* Iso - 1ml liquid = 195ml vapour @20C



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Sevoflurane	Traditional	Darvall Low Flow	Saving
Oxygen			
Oxygen (ml/kg/min)	200	30	
Average patient weight (kg)	7	7	
Anaesthetic duration (mins)	60	60	
Oxygen/case - 1 hour duration (L)	84	13	71
Cases per year	1,200	1,200	
Oxygen per year (L)	100,800	15,120	85,680
E cylinders (680L)	148	22	126
Cost of E cylinder	£ 16.00		
Oxygen Cost	£ 2,371.76	£ 355.76	
Oxygen saving			£ 2,016.00
Inhalation Agent - Sevoflurane			
Sevo%	3	3	
Sevo vapour (L) per year (1 hour average anaesthetic)	3,024	454	
Sevo liquid (L) per case*	17	2	14
Sevo bottles (250ml) per year	66	10	56
Retail cost of sevo (per 250ml bottle)	£ 200.67	£ 200.67	
Cost of sevo in a year	£ 13,263.96	£ 1,989.59	
Sevoflurane savings			£ 11,274.36
Vaporiser Service			
Number of services per 10 years	10	2	8
Cost of service	£ 140.00		
Service saving per year			£ 112.00
Total savings per year			£ 13,402.36

* Sevo - 1ml liquid = 183ml vapour @20C

Cost of Operating Oxygen Concentration

Burton's DeVilbiss Oxygen concentrator - Cost	£ 1,256.30
Power consumption (670W) continuous power	670
Yearly power (@1200) hours per year kWh/year**	804
Price of electricity - UK price cap/kWh	£ 0.27
Electricity cost per year	£ 217.08
Cost of service	£ 200.00

Cost of generating oxygen per year (5-year depreciation) **£ 668.34**

** Assumes Oxygen Concentrator only operates during anaesthesia time