

# Experience Summary for Open Heart Surgery


A recent survey by William G. Esmond, M.D., assistant professor of surgery at the University of Maryland Medical School has resulted in a summary of equipment performance and efficiency in 38,629 cases of open heart surgery performed at 63 medical centers.

Dr. Esmond is continuing his research in this area and is interested in any additional or unusual case facts. He can be written in care of the University of Maryland Medical School, Baltimore, Maryland 21201.

1) Years experience of your hospital in open-heart surgery.	Years	8.44	b) Oxygenator failures		
2) Total bypass performed using heart-lung machine bypass.		633.2	1) Inadequate oxygenation	Number	94
3) Do you have emergency power electrical equipment on hand to supply emergency electrical power in the event of a power failure?	Yes	60	2) Inadequate debubbling	Number	28
	No	3	3) Inadequate CO <sub>2</sub> transport	Number	6
4) Is this equipment in the—			c) Heat exchange inadequacy		
Operating Room		8	1) Inability to prevent hypothermia	Number	10
Outside the Operating Room		8	2) Inability to adequately rewarm from hypothermia	Number	11
Hospital Emergency System		43	d) Open heart suction inadequacy		
None		4	1) Inadequate suction	Number	212
5) How many of the cases in (2) have had electrical power failure?		45	2) Failure due to debris blocking filters	Number	49
6) Have any fatalities resulted from electrical power failure? (One said not in surgery.)		0	3) Inadequate air-blood separation	Number	20
7) Any mechanical failures? (One incorrect gasket caused air embolism.)			e) Has red cell hemolysis, white cell, or platelet destruction been a serious problem in your experience?	Yes	8
a) Components of pump itself	Number	22	f) Has protein denaturation been proved to be a serious problem in your experience?	Yes	1
1) Electric motor drive	Number	8	8) Method of handling mechanical failures		
2) Electric motor control circuit	Number	11	a) Hand cranking		57
3) Miscellaneous—plugs, wires, etc.	Number	13	b) Flexible shaft variable speed drive from spare standby motor and controller		3
4) Cut blood circuit tubing	Number	5	c) Standby second machine assembled, sterile and primed		2
5) Rectifier burn-out	Number	1	d) Other — Battery operated pump		1
6) Broken disc drive	Number	2	9) Do you consider the reliability of your present equipment adequate?	Yes	61
				No	2

Data from 63 centers totaling 38,629 cases.

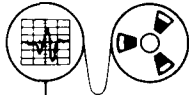
**SENSOR 2-C**



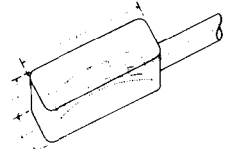
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