

Patent Ductus Arteriosus:  
Surgical Closure in Premature Infants  
An Operating Theatre  
Nursing Perspective.





# Background:

Off-site service commenced in 1992.

It is offered at PICUs throughout Melbourne.

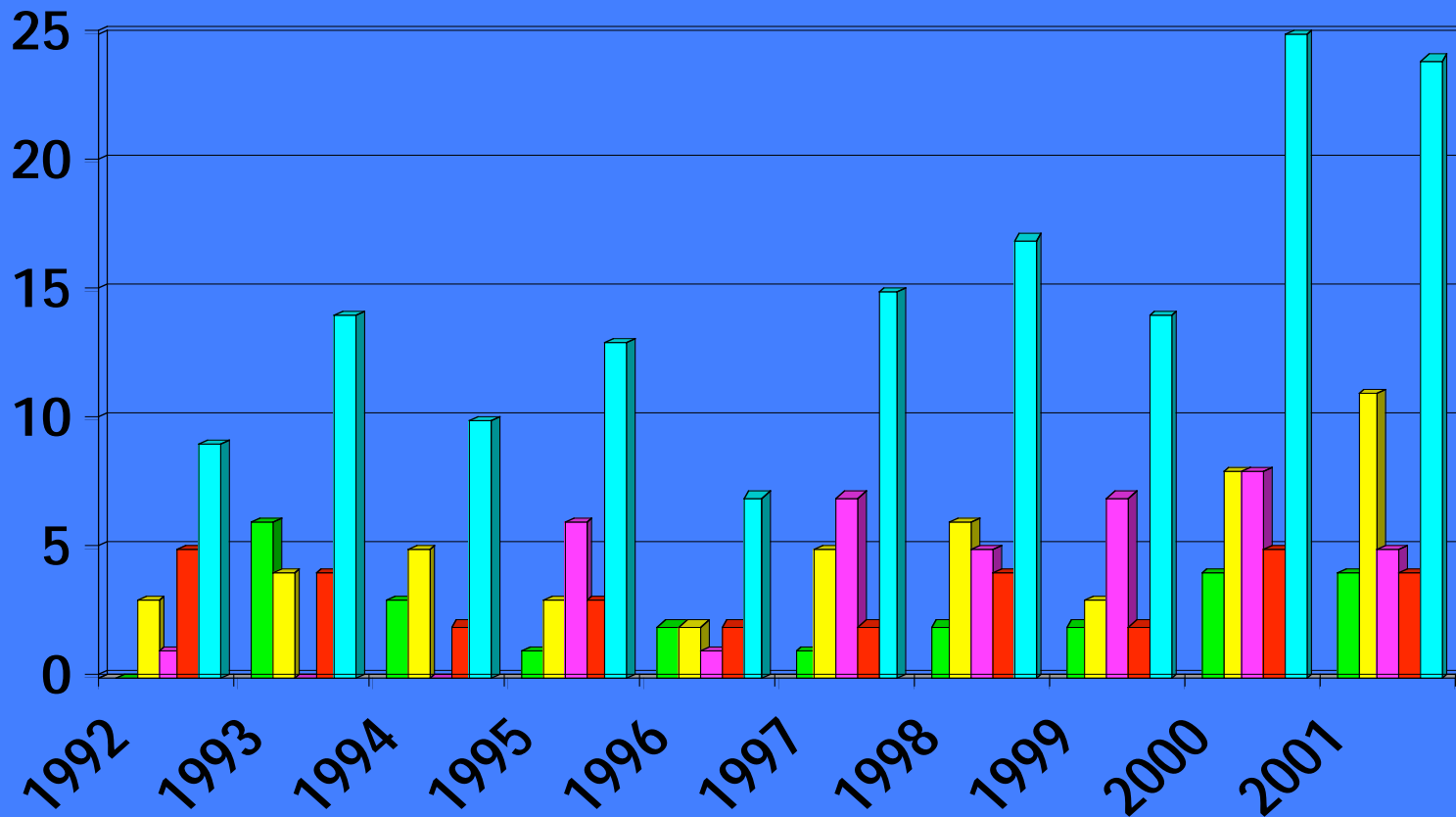
Used when Indomethacin is ineffective or contra-indicated.

Avoids inter-hospital transfer of sick infants and the associated risks.



# PDA ligation outside O.R.

■ RCH NNU ■ MMH ■ RWH ■ Monash ■ Total





# PDA ligation outside O.R.

Hospital	92	93	94	95	96	97	98	99	00	01
RCH NNU	0	6	3	1	2	1	2	2	4	4
MMH	3	4	5	3	2	5	6	3	8	11
RWH	1	0	0	6	1	7	5	7	8	5
MMC	5	4	2	3	2	2	4	2	5	4
Total	9	14	10	13	7	15	17	14	25	24



# Patient birth-weight

Patent Ductus Arteriosus (PDA)  
is present in:

45% of infants with birth-weight < 1750 g.

80% of infants with birth-weight < 1200 g.



# Patient age at operation

Patent Ductus Arteriosus (PDA)  
surgically ligated at:

Ages ranging from 3 – 125 days post partum.

Mean age = 25 days, median age = 23 days.



# Mortality / Morbidity

Estimated rate of mortality for untreated PDA is 30%.

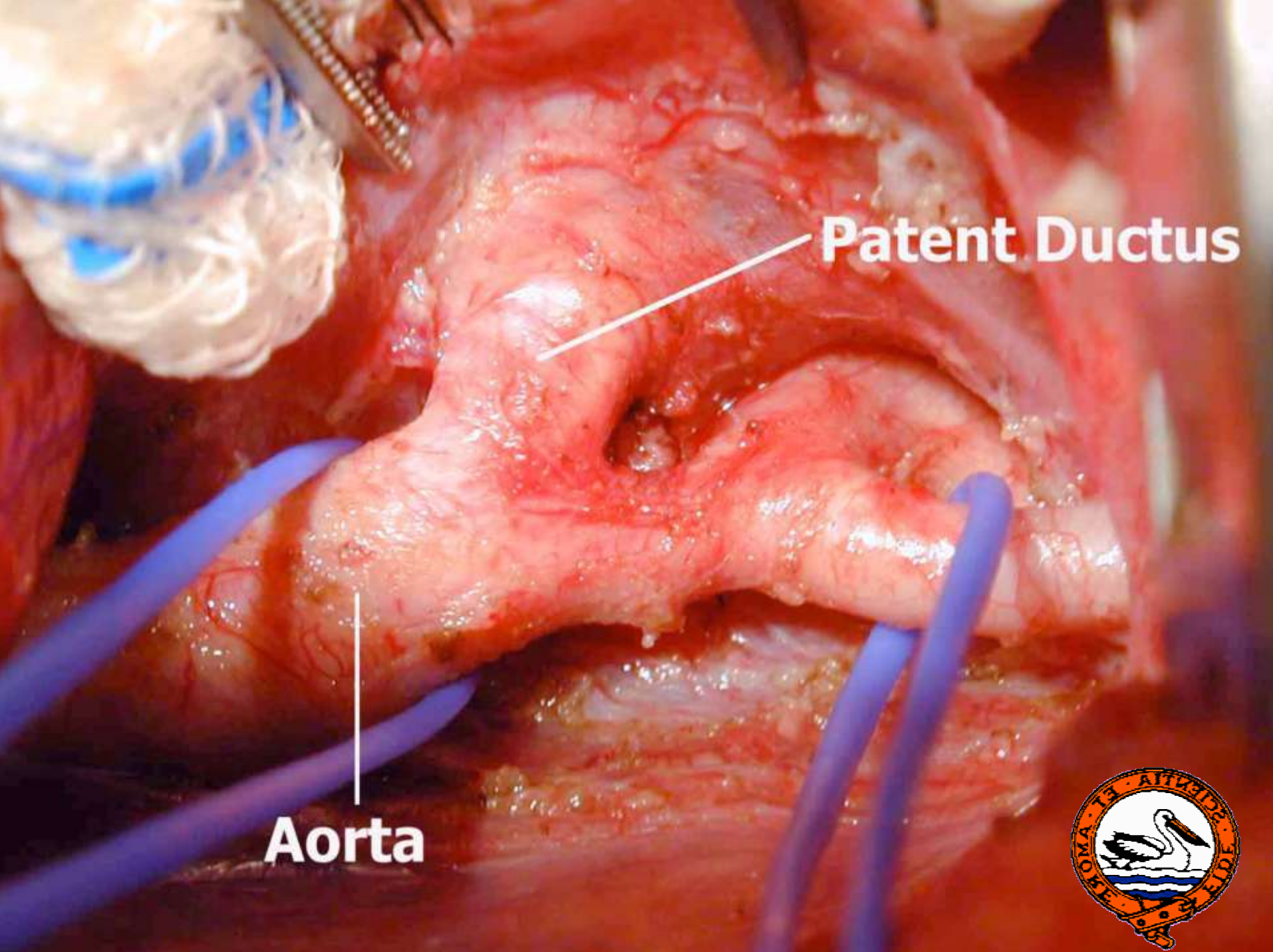
Leading cause: congestive heart failure.

Secondary cause: respiratory infection.

No surgically related mortality or long term morbidity.

2 cases of short term morbidity since 1992.



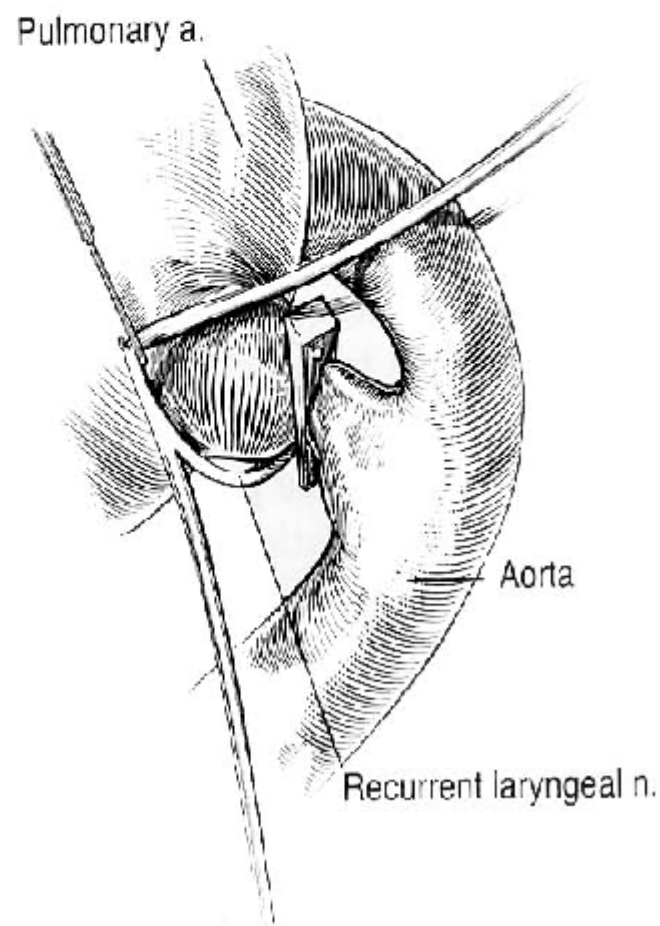
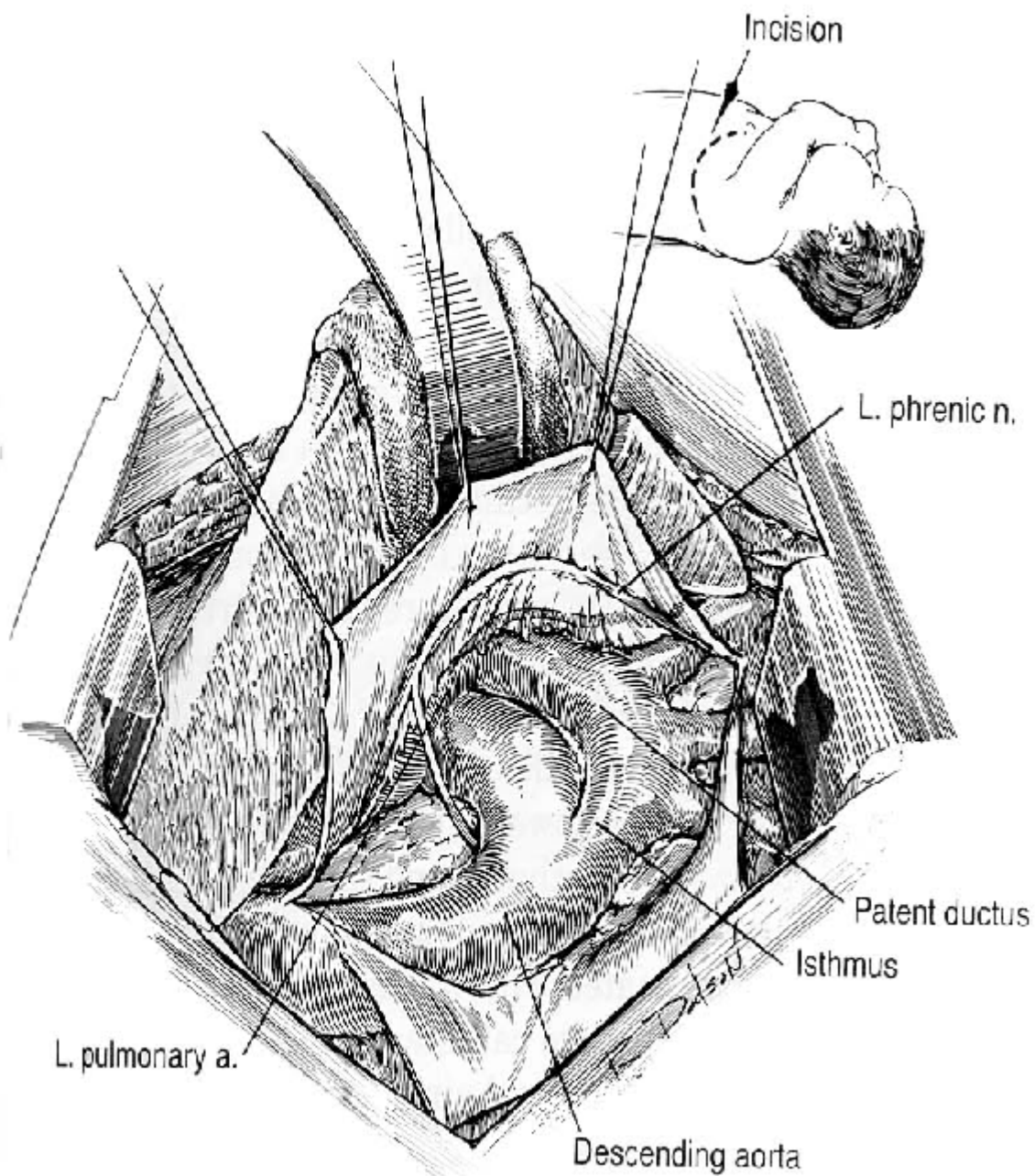


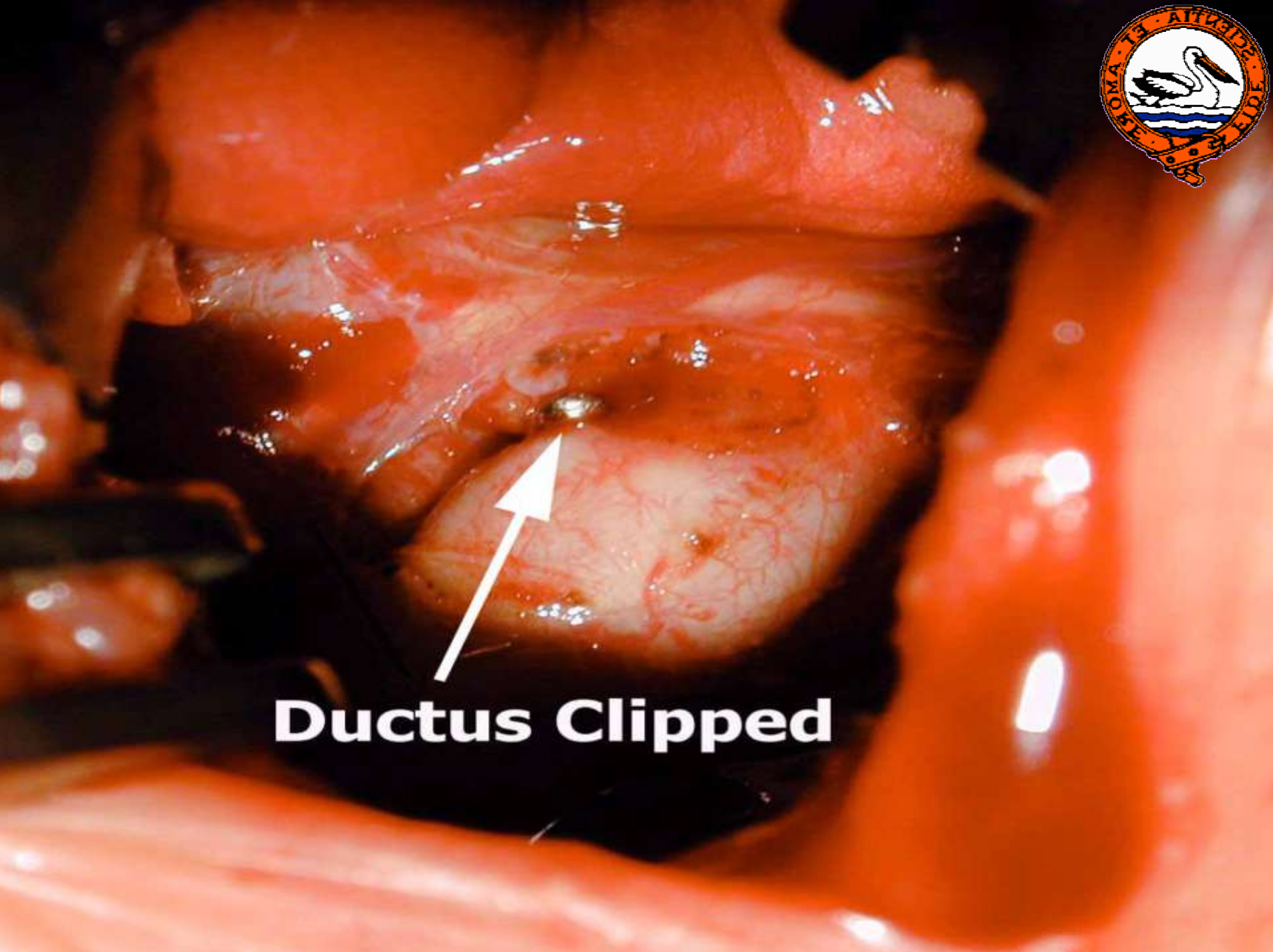
**Patent Ductus**

**Aorta**









**Ductus Clipped**



# Peri-operative Perspectives

Circumferential dissection not required.

Titanium clip used to ligate the duct

Limited surgical exposure can cause problems:

Lung injury, cardiac tamponade, misidentification.

Average surgical time is 20 minutes.



# Conclusion

Ligation of PDAs can be performed safely in an intensive care setting.

There is very little morbidity or mortality directly related to the procedure.

Outcomes support continued use of this operative strategy.