

PATENT DUCTUS ARTERIOSUS (PDA)

A SIGNIFICANT CHALLENGE

Constriction of the ductus arteriosus is a critical step in postnatal circulatory transition. If the ductus remains open, Patent Ductus Arteriosus (PDA) occurs, resulting in left-to-right shunting that can create significant challenges, especially in premature infants. Challenges include:

- Pulmonary over-circulation in lungs that are already under duress¹
- Systemic hypoperfusion¹

A COMMON OCCURRENCE

- A PDA is present in approximately 1 in 2,000 newborns¹
- The incidence of PDA in preterm babies is considerably higher (20-60%)²
- For low birth weight infants (< 1,200g), PDA incidence is > 80%²





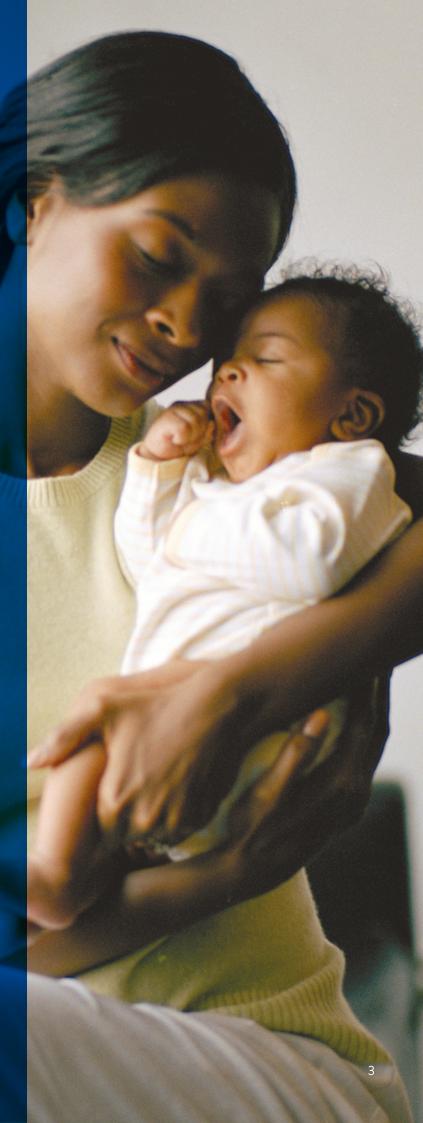
SURGICAL LIGATION LIMITATIONS

While surgical ligation has been performed extensively with high closure rates, studies indicate significant procedural complications. Data shows 32% of premature infants required inotropes following PDA ligation.³ Other risks associated with PDA ligation include:

- Bleeding, infection⁴
- Neurodevelopmental delay⁴
- Recurrent laryngeal nerve injury (vocal cord paralysis)^{5,6}
- Injury to lymphatic vessels (chylothorax)^{6,7}
- Post ligation syndrome (hemodynamic compromise post procedure)⁸

"Use of surgical ligation, however, was significantly associated with the development of chronic lung disease and was independent of immature gestation, other patent ducts arteriosus related variables, or other perinatal and neonatal risk factors known to be associated with chronic lung disease."

—CHANE N, ET AL. PEDIATRICS. 2007; 199;1185.9





AMPLATZER PICCOLO™ OCCLUDER

A NEW LEVEL OF VERSATILITY AND PROVEN SAFETY FOR THE YOUNGEST INFANTS AND UP.

As the only PDA closure solution indicated for premature infants \geq 700g + \geq 3 days old and proven to deliver safe and effective closure, Amplatzer PiccoloTM Occluder offers new opportunities to care for a wider range of patients than ever before.

BUILT ON THE EXTENSIVE AMPLATZER™ LEGACY OF SAFETY AND EFFICACY

- Pioneered transcatheter occlusion
- Over 1.25 million devices implanted worldwide¹¹
- More than 20 years of clinical experience

CLINICALLY PROVEN OUTCOMES

The safety and efficacy of the Amplatzer $Piccolo^{TM}$ Occluder in patients weighing ≥ 700 grams was studied in a 50 patient pivotal trial and 150 additional patients under a continued access protocol. When combined, the studies enrolled a total of 200 patients. At the time of the procedure, 100 patients weighed ≤ 2 kg and the other 100 patients weighed ≥ 2 kg.

AMPLATZER PICCOLO™ 3-YEAR FOLLOW-UP DATA



IMPLANT SUCCESS¹³

99.0% for patients $\leq 2kg$ 92.0% for patients > 2kg



EFFECTIVE CLOSURE¹⁴

At 3-year follow-up
Only IDE patients included
a 3 year echo.



3-YEAR SURVIVAL14

No deaths were directly attributed to the procedure or device itself.

OTAL NUMBER OF PATIENTS: 200	≤ 2 kg (N=100)	> 2 kg (N=100)	Total (N=200)
	DEMOGRAPHICS		
Age, Months			
Mean ± SD	1.25 ± 0.60	26.58 ± 44.32	3.92 ± 33.74
Range	(0.30 - 3.15)	(0.49 - 216.80)	(0.30 - 216.80)
Weight (kg)			
Mean ± SD	1.25 ± 0.35	11.25 ± 13.52	6.25 ± 10.77
Range	(0.70 - 2.00)	(2.02-68.50)	(0.70 - 68.50)
PD	A CHARACTERISTICS (by angio	ography)	
Minimal PDA Diameter (mm)	, 0	,	
Mean ± SD	2.8 ± 0.7	2.4 ± 0.7	2.6 ± 0.7
Range	(1.4 - 4.0)	(1.0 - 4.0)	(1.0 - 4.0)
PDA Length (mm)			
Mean ± SD	10.6 ± 2.2	10.1 ± 3.4	10.4 ± 2.9
Range	(5.3 - 19.2)	(4.1 - 20.0)	(4.1 - 20.0)
	PROCEDURE CHARACTERIST	rics	
Implant Success (%)	99.0% (99/100)	92% (92/100)	95.5% (191/200)
Fluoroscopy Time (min)			
Mean ± SD	10.5 ± 12.4	10.1 ± 7.0	10.3 ± 10.0
Range	(3 - 103)	(3 - 43)	(3 - 103)
Anterograde Implant	100.0% (99/99)	73.9% (68/92)	87.4% (167/191)
Femoral Arterial Access	2.0% (2/100)	48.0% (48/100)	25.0% (50/200)
In NICU at time of baseline assessment	100.0% (100/100)	32.0% (32/100)	66.0% (132/200)
	OUTCOMES		
Major complications rate through 180 days (%)	4.2% (4/96)	0% (0/98)	2.1% (4/194)
Effective closure at 6 months (%)	100% (89/89)	98.8% (83/84)	99.4% (172/173)

ONLY YOU CAN REDUCE RISKS WITH A TRANSCATHETER PDA CLOSURE REFERRAL.



NEONATOLOGIST CONSIDERS

- Is the PDA hemodynamically significant based on echocardiographic and clinical assessment?
- Is medical therapy contraindicated or has it already failed?



MULTI-DISCIPLINARY TEAM DETERMINES

• Is transcatheter PDA closure clinically appropriate?



PDA CLOSURE

MAKE CLOSURE THE PRIORITY

By referring to an interventional cardiologist, you can help reduce the risk for a wide range of patients.





For more information about the Amplatzer Piccolo™
Occluder, contact your Abbott sales representative or
SCAN THE QR CODE.

For more information about the Amplatzer Piccolo™ Occluder and the complete line of Amplatzer heart occluders, contact your Abbott sales representative or download the Amplatzer Portfolio App.









REFERENCES

1. Schneider DJ, Moore JW. Patent ductus arteriosus. Circ. 2006;114(17), 1873-18. 2. Dice DE. and Bhatia J. Patent Ductus Arteriosus: An Overview. J Pediatr Pharmacol Ther. 2007;12(3), 138-146.
3. Moin F, Kennedy KA, Maya FR. Risk factors predicting vasopressor use after patent ductus arteriosus ligation. Am J Perinatol. 2003;20:313-20. 4. J.C. Madan, D. Kendrick, J.I. Hagadorn, I.D. Frantz 3rd, Patent ductus arteriosus therapy: impact on neonatal and 18-month outcome. Pediatrics. 123 (2) (2009) 674.681. 5. Rodríguez Ogando A, Planelles Asensio I, de la Blanca ARS, et al. Surgical ligation versus percutaneous closure of patent ductus arteriosus in very low-weight preterm infants: Which are the real benefits of the percutaneous approach? Pediatr Cardiol. 2017. 6. Noori S (2012) Pros and cons of patent ductus arteriosus ligation: hemodynamic changes and other morbidities after patent ductus arteriosus ligation. Sem Perinatol. 36(2):139.145. 7. Pamukcu O, Tuncay A, Narin N, et al. Patent ductus arteriosus olosure in preterms less than 2kg: Surgery versus transcatheter. Int J Cardiol. 2018; 250:110-115. 8. A.F. El-Khuffash, A. Jain, P.J. McNamara, Ligation of the patent ductus arteriosus in preterm infants: understanding the physiology. J. Pediatr. 162 (6) (2013) 1100.1106. 9. Chorne N, Leonard C, Piecuch R, Clyman RI. Patent ductus arteriosus in Ist treatment as risk factors for neonatal and neurodevelopmental morbidity. Pediatrics. 2007;119(6):1165-1174. doi:10.1542/peds.2006-3124. 10. Semberova J, et al. Spontaneous Closure of Patent Ductus Arteriosus in Infants </ri>
4/= 700 grams. Catheter Cardiovasc Interv. 2020;1.11.13. Sathanandam SK, Guffinger D, O. Brien L, et al. Amplatzer Piccolo Occluder clinical trial for percutaneous closure of the patent ductus arteriosus in patients
4/= 700 grams. Catheter Cardiovasc Interv. 2020;1.11.13. Sathanandam SK, Guffinger D, O. Brien L, et al. Amplatzer Piccolo Occluder clinical trial for percutaneous closure of the patent ductus arteriosus in patients

CAUTION: This product is intended for use by or under the direction of a physician. Prior to use, reference the Instructions for Use, inside the product carton (when available) or at eifu.abbottvascular.com or at medical.abbott/manuals for more detailed information on Indications, Contraindications, Warnings, Precautions and Adverse Events.

Information contained herein for **DISTRIBUTION outside of the U.S. ONLY**. Check the regulatory status of the device in areas where CE marking is not the regulation in force.

Illustrations are artist's representations only and should not be considered as engineering drawings or photographs. Photo(s) on file at Abbott.

Abbott Vascular International BVBA

Park Lake, Culliganlaan 2b, 1831 Diegem, Belgium www.cardiovascular.abbott

- $^{\scriptscriptstyle\mathsf{TM}}$ Indicates a trademark of the Abbott group of companies.
- \ddagger Indicates a third party trademark, which is property of its respective owner.
- © 2023 Abbott. All Rights Reserved. MAT-2104204 v2.0 | Item approved for OUS use only.

