

AMPLATZER PICCOLO™ OCCLUDER

**CLOSING TODAY'S PDAs.  
OPENING TOMORROW'S  
BIG POSSIBILITIES.**

**PROVEN PDA CLOSURE FOR  
PATIENTS 700 GRAMS AND UP.**

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# 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 duress<sup>1</sup>
- Systemic hypoperfusion<sup>1</sup>

## A COMMON OCCURRENCE

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

## 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.<sup>3</sup> Other risks associated with PDA ligation include:

- Bleeding, infection<sup>4</sup>
- Neurodevelopmental delay<sup>4</sup>
- Recurrent laryngeal nerve injury (vocal cord paralysis)<sup>5,6</sup>
- Injury to lymphatic vessels (chylothorax)<sup>6,7</sup>
- Post ligation cardiac syndrome (hemodynamic compromise post procedure)<sup>8</sup>

*“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.”*

—CHORNE N, ET AL. PEDIATRICS. 2007; 119:1185.<sup>9</sup>



THE INCIDENCE OF PRETERM PDA<sup>2</sup>



>50% PDAS REMAIN OPEN AT 3 WEEKS FOR INFANTS <1,000g<sup>10</sup>



## 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  $\geq 700\text{g} + \geq 3$  days old and proven to deliver safe and effective closure, Amplatzer Piccolo™ 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 worldwide<sup>11</sup>
- More than 20 years of clinical experience

## CLINICALLY PROVEN OUTCOMES.

A recent study using the Amplatzer Piccolo™ Occluder for PDA closure demonstrated safety and effectiveness with a low rate of major complications and a high rate of PDA closure.<sup>12</sup>

	PATIENTS $\leq 2$ KG	PATIENTS $> 2$ KG
TOTAL # OF PATIENTS	100	100
FLUOROSCOPY TIME (MIN) MEAN $\pm$ SD	10.5 $\pm$ 12.4	10.1 $\pm$ 7.0
ANTEROGRADE IMPLANT VENOUS APPROACH	100% (99/99)	73.9% (68/92)
NICU AT BASELINE TREATED PRIOR TO NICU DISCHARGE	100% (100/100)	32.0% (32/100)
IMPLANT SUCCESS (%)	99%	92%
EFFECTIVE CLOSURE RATE*	100% At 6 months	98.8% At 6 months
MAJOR COMPLICATIONS**	4.2% Through 180 days	0% Through 180 days

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\*Assessed by echocardiography and defined as the presence of either a grade 0 (none) or grade 1 (trivial) shunt.

\*\*Major complications were defined as "device or procedure-related adverse events resulting in death, life-threatening adverse event, persistent or significant disability and/or surgical intervention".

# 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

#### 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 closure 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 RL. Patent ductus arteriosus and its 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 </= 1500g. *Pediatrics.* 2017;149 (2). **11.** Data on file at Abbott. **12.** Sathanandam SK, Gutfinger D, O'Brien L, et al. Amplatzer Piccolo Occluder clinical trial

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](http://eifu.abbottvascular.com) or at [medical.abbott/manuals](http://medical.abbott/manuals) for more detailed information on Indications, Contraindications, Warnings, Precautions and Adverse Events.

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