

Scientific Name: Indomethacin Trade Names: Indocin Indocid Classification: Nonsteroidal Anti-Inflammatory Drug (NSAID) Prostaglandin Synthesis Inhibitor Mechanism of Action: Indomethacin works by inhibiting the enzyme cyclooxygenase (COX), which is involved in the production of prostaglandins. Always consult a healthcare provider for specific treatment recommendations#### Alternatives: – **Ibuprofen lysine:** Another NSAID used for PDA closure, with a similar mechanism of action but potentially fewer renal side effects.### Monitoring: – **Renal function:** Monitor urine output, serum creatinine, and blood urea nitrogen (BUN). It is typically used in neonates, especially preterm infants, where the ductus arteriosus fails to close spontaneously. Contraindications: Active bleeding or significant risk of bleeding intracranial hemorrhage, gastrointestinal bleeding Thrombocytopenia** (low platelet count). Indications: Closure of hemodynamically significant PDA in premature infants.### Dosage and Administration: – **Dosage:** Typically, indomethacin is administered intravenously in three doses over 24–48 hours. – **Surgical ligation:** If pharmacological treatment fails or is contraindicated, surgical closure of the PDA may be necessary. By inhibiting their production, indomethacin promotes the closure of the ductus arteriosus.### Side Effects: – **Renal:** Reduced urine output, renal dysfunction, or acute kidney injury. – **Metabolism:** Primarily hepatic.