# [Drug-Eluting Stents Compared With Bare Metal Stents for Stenting the Ductus Arteriosus in Infants With Ductal-Dependent Pulmonary Blood Flow.](https://www.ncbi.nlm.nih.gov/pubmed/31350000)

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**Take-Home Points:**

* Drug eluting coronary artery stents (DES) have been theorized to have a lower incidence of neo-intimal proliferation (compared with bare metal stents) when implanted in the ductus arteriosus.
* DES were found to have significantly less luminal loss and fewer unplanned interventions when compared to BMS.

**Commentary from Dr. Konstantin Averin (Edmonton, Canada), catheterization section editor of Pediatric Cardiology Journal Watch:** Stenting of the ductus arteriosus (DA) is rapidly emerging as an equivalent (or superior) option for augmenting pulmonary blood flow in infants with ductal-dependent pulmonary blood flow (PBF). Drug eluting coronary artery stents (DES) have been theorized to have a lower incidence of neo-intimal proliferation but data comparing them to bare metal stents (BMS) in this patient population are lacking. The authors sought to compare the safety and efficacy of DES to BMS in neonates undergoing DA stenting for ductal-dependent PBF.

Over a 14 year period (2004-2018) 71 infants with confluent central pulmonary arteries underwent ductal stenting for ductal-dependent PBF (46 BMS and 25 DES) with stent selection being uniform during the study period. The baseline characteristics of the cohort as a whole were unremarkable and were similar between the 2 groups (BMS v DES). Freedom from ≥ 50% luminal loss was significantly higher in the DES group (see Kaplan Meier curve below) with the odds ratio for a 50% loss in luminal diameter (as assessed via a subsequent angiographic evaluation) being 1.6 (95% CI 1.2-2.3) for BMS v DES. Sixteen infants (23%) underwent unplanned re-interventions to treat cyanosis, with a significantly higher percentage in the BMS group (28%) compared to the DES group (12%), p=0.02.

There was no mortality difference between the groups. Given concerns about serum drug levels in infants with DES, the authors compared rates of infection between the 2 groups and found the rate of bacterial infection to be higher in the DES group (8% v 2%) but this did not reach statistical significance.

The authors conclude that luminal loss was significantly less and unplanned interventions less common in patients with DES compared to BMS. While the authors did not measure serum drug levels, even if they had been elevated there do not appear to have been significant clinical sequela related to this (consistent with prior reports). Intuition would suggest that anti-proliferative agents would mitigate neo-intimal proliferation of ductal tissue and this report begins to lend credence to that theory. Given the data presented in this report, providers should strongly consider use of DES (vs BMS) for ductal stenting.

