

Long Term Follow-up of VDD Pacemaker Leads and VDD Pacing in Pediatric Population

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Background:

VDD pacing is the mode of choice for most patients with congenital heart disease whom require pacing. VDD leads are ideal in this population due to concerns of lead burden and limited cardiac size at time of implant.

Methods and Results:

23 patients (6 months-16years; 17 male, 6 female) were followed for 13±5 yrs. 18 are still on VDD pacing. In 12 of these patients, the original VDD lead remained functional for 2-19 years. In 6 patients the lead failed (5 of these leads were extracted and one was retained for atrial sensing). In 3 other patients the VDD lead remained functional and required leads for ICD, CRT-P, or DDDR pacing. One patient required upgrade to DDDR with atrial and ventricular leads implantation. In one patient the pacing was downgraded. In summary, in 15 patients the original VDD lead is still functional after 2-19 years. The results are summarized in the table below:

Pacing type and leads	Number of patients	Time after implant
VDD pacing with original single pass lead	12	13±5 years
Upgrade to ICD, CRTP, or DDDR pacing without lead failure	3	6±6 years
Single pass lead failure with implantation of a second lead	6	9±4 years
Upgrade to DDDR pacing with new atrial and ventricular lead	1	10 years
Downgrade to VVIR	1	1 year

Conclusion:

VDD pacemaker leads in the pediatric population are feasible and have reasonable longevity. Rarely do these patients develop need for atrial or biventricular pacing. Long- term durability is about 68% in our experience. This remains our centers lead of choice for this population.