

Vitatron Recommended Replacement Time

Collection II, Collection III, Vita II, Selection, Prevent AF

Output	Ageing Impedance	Time to RRT	Depleted Impedance
1.2V/0.4mS	6Kohms	18mths	9Kohms
2.5V/0.4mS	6Kohms	14mths	9Kohms
3.8V/0.4mS	6Kohms	10mths	9Kohms
5.0V/0.4mS	5.2Kohms	9mths	8Kohms
7.5V/0.4mS	2.5Kohms	4mths	3.8Kohms

Assumes 500ohms lead impedance both A+V. 100% Pacing.

Magnet rate 95ppm @ Ageing
 86ppm @ Depleted

If lead impedance 300ohms or PW 0.7mS, remaining service life decreases by approx 30%.

pulse duration & lead impedance	pulse amplitude (V)				
	1.2	2.5	3.8	5.0	7.5
≤ 0.4 ms and ≥ 500 Ω	6	6	3	2	1
> 0.4 ms or < 500 Ω	6	4	2	2	1
> 0.4 ms and < 500 Ω	4	4	2	1	1

Recommended follow-up intervals in months if battery 'ageing' (DDD, 60 min-1, 100% pacing).

Note this is valid for 95% of the pacemaker population.

It is recommended to apply these intervals if the battery impedance is close to the ageing points.

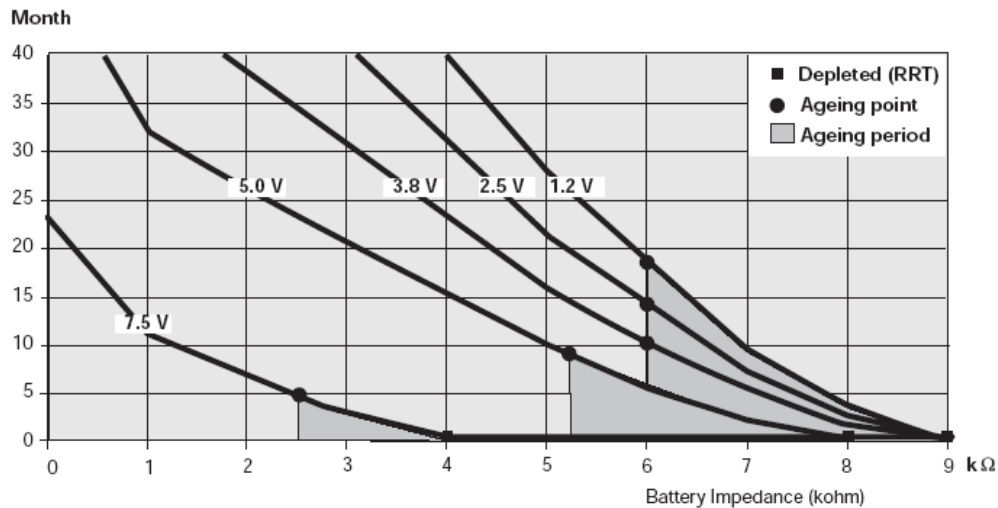
Vitatron recommends 6 monthly follow-up for DDD/VDD/R devices at 2.5V/0.4mS/lead impedances ≥ 500ohms for devices implanted 5 years.

Once pacemaker has been implanted 7 years at 2.5V/0.4mS lead impedances ≥ 500ohms, follow-up intervals should be reduced to 3 months whether battery AGEING or not.

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Dual Chamber



The remaining service life of a DDD in relation to the actual battery impedance, together with the Ageing points. Pulse duration of 0.4 ms, 60 min⁻¹, 500 Ohms, 100% pacing. At 300 Ω lead impedance or a pulse duration of 0.7 ms, the remaining service life decreases by approximately 30%.

pulse duration & lead impedance	pulse amplitude (V)				
	1.2	2.5	3.8	5.0	7.5
≤ 0.4 ms and ≥ 500 Ω	6	6	3	2	1
> 0.4 ms or < 500 Ω	6	4	2	2	1
> 0.4 ms and < 500 Ω	4	4	2	1	1

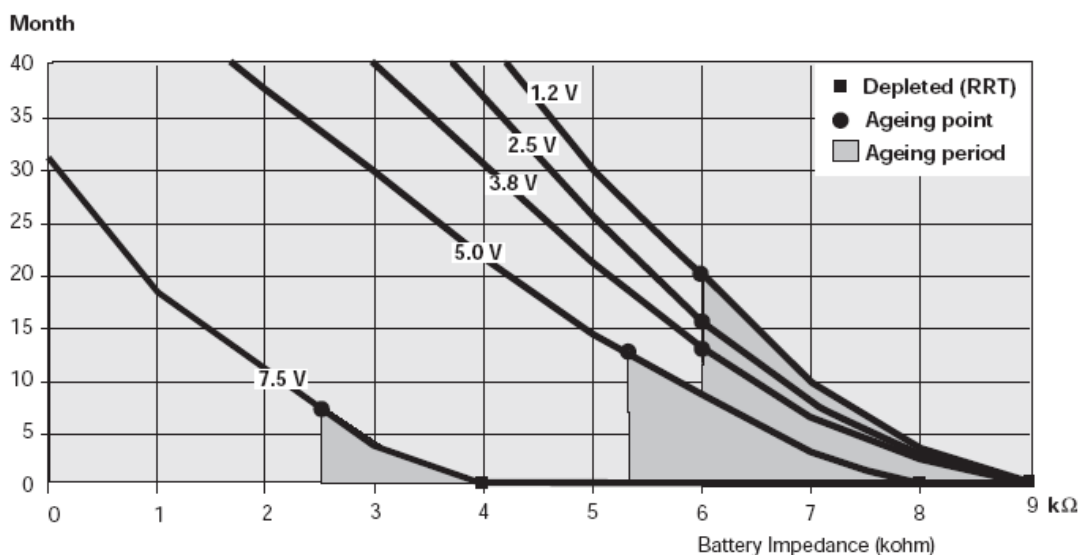
Recommended follow-up intervals in months if battery 'ageing' (DDD, 60 min⁻¹, 100% pacing). Note this is valid for 95% of the pacemaker population.

It's recommended to apply these intervals if the battery impedance is close to the ageing points.

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Single Chamber



The remaining service life of a VVIR in relation to the actual battery impedance, together with the Ageing points. Pulse duration of 0.4 ms, 60 min⁻¹, 500 Ω, 100% pacing. At 300 Ω lead impedance or a pulse duration of 0.7 ms the remaining service life decreases by approximately 30%.

pulse duration & lead impedance	pulse amplitude (V)				
	1.2	2.5	3.8	5.0	7.5
≤ 0.4 ms and ≥ 500 Ω	6	6	4	4	2
> 0.4 ms or < 500 Ω	6	4	3	2	1
> 0.4 ms and < 500 Ω	6	4	2	1	1

Recommended follow-up intervals in months if battery 'ageing' (VVIR, 60 min⁻¹, 100% pacing). Note this is valid for 95% of the pacemaker population.

It's recommended to apply these intervals if the battery impedance is close to the ageing points.

Changes in pacemaker characteristics when depleted stage is reached

	before depleted	depleted (RRT)
Mode	Dual chamber or VVI(R)	VVI
	AAI(R) ²	AAI ²
	VVT/AAT ²	VVT/AAT ²
	DOO, VOO	VOO
	AOO ²	AOO ²
Pacing interval	as programmed	100 ms increase ¹
Magnet rate	100 min ⁻¹ (good) or 95 min ⁻¹ (ageing)	86 min ⁻¹
Flywheel	as programmed	OFF
Holters/Histogram	as programmed	OFF
Mode switching trend	as programmed	OFF
Selected event recording	as programmed	OFF
ECG event markers	available	not possible
Diagnostic observations	available	unavailable
Sudden rate drop intervention	available	unavailable

- 1) The programmer displays the programmed rate, not the actual pacing rate.
- 2) Not available in the Clarity VDDR.