A systematic review of Australian hospitals' policies on the deactivation of implantable cardioverter defibrillators

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Introduction: Increasing numbers of older adults are living with implantable cardioverter defibrillators (ICD), reflecting expanded indications and increased insertion rates (1). Deactivation rates for those approaching end of life are low, risking undue distress and an undignified death (2). International guidelines recommend discussions regarding deactivation be part of pre-implantation consent (3). Local health service policies, procedures and guidelines regarding deactivation are crucial for best-practice end-of-life care.

Objective: This systematic review aimed to determine the availability and content of hospital policies, procedures and guidelines regarding ICD deactivation towards end of life.

Methods: Victorian (PROMPT) and South Australian hospital guidelines databases were systematically searched (September 2022 - February 2023) to identify all documents regarding ICD deactivation at end-of-life. Eligible documents were analysed using a data extraction tool.

Results: Of 4001 documents identified from 93 health services (population 8.45 million Australians), 11 were included, with 10 (91%) from public, and 8 (73%) from metropolitan, health services. Two (18%) documents provided recommendations for subacute healthcare settings and 1 (9%) for community-based patients.

Guidance for prompting ICD deactivation discussions was limited. Only 2 (18%) documents advised at time of insertion, 1 (9%) at generator change and 6 (55%) during advance care planning discussions (Figure 1).

Recommended indications for ICD deactivation varied and included: patients with a palliative condition (2, 18%) or receiving end-of-life care (11, 100%), patient’s request (7, 64%) and with an active do not resuscitate order (5, 45%). Nine (82%) documents provided key points for informed consent discussions including that deactivation does not cause/hasten death (8, 73%), does not deactivate pacing (8, 73%), aims to promote a peaceful death (8, 73%) and that reactivation is possible (8, 73%).

Instructions for temporary deactivation using a magnet were provided in 10 (91%) documents (8 (73%) included manufacturer-specific instructions, 2 (18%) including correct magnet placement diagram). Most (10, 91%) gave non-urgent deactivation instructions. Advice for managing ICDs after death was detailed in 4 (36%) documents.

Conclusion: There is a paucity of local health service guidance to support Australian clinicians navigate the challenges of ICD deactivation at end of life. Consistent, detailed, high-quality local health service guidance is required to facilitate active recognition of people with whom timely discussion and action regarding ICD deactivation is appropriate. This may contribute to improved end of life care. Additionally, given the geographical size and population spread of Australia and implications for cardiologist access, logistical caveats that allow adaptation for local health service should be highlighted.

Figure 1

<table>
<thead>
<tr>
<th>Suggested Triggers for ICD Deactivation Discussions</th>
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</thead>
<tbody>
<tr>
<td>Insertion</td>
</tr>
<tr>
<td>Number of Documents</td>
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<td>11</td>
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Triggers for Discussion