

2021 CARDIAC PACING AND HEART FAILURE ESC GUIDELINES

2021 ESC GUIDELINES

SUMMARY MAIN TOPICS

Leadless pacing - New

- No venous access or high risk for pocket infection: **Class IIa**
- Alternative to VVI or VDD pacing: **Class IIb**

Pacing, ReactivATP - New

- Atrial ATP in SND with brady-tachy syndrome: **Class IIb**

His bundle pacing - New

- Unsuccessful CRT: **Class IIa**
- Implant RV backup lead in specific situations: **Class IIa**
- In pace-and-ablate indication: **Class IIb**
- Instead RV pacing in AVB with EF>40% and expected Vpacing >20%: **Class IIb**

ICD therapy

- Primary prevention ICD in non-ischemic cardiomyopathy: **Class IIa** (was I)

Cardiac Resynchronization Therapy

- HF with EF≤35%, QRS 130-149ms, LBBB: **Class IIa** (was I)
- EF<40%, high degree AV block: **Class I** (was IIa)
- Upgrade of PM/ICD in HF with EF≤35%: **Class IIa** (was I)
- CRT-D in CRT candidates: **Class IIa** (new)
- AVN ablation: HF_rEF: **Class I** (was IIa), HF_mrEF: **Class IIa** (new), HF_pEF: **Class IIb** (new)

TYRX - New

- Pacemaker reintervention: **Class IIb**

Patient Management

- Remote monitoring to reduce in-office follow-ups if pt. has difficulty to attend in-office visit: **Class I** (new)
- Remote monitoring in recalled devices: **Class I** (new)
- Extend in-office follow-up of VVI/DDD PM to up to 24 months with remote monitoring: **Class IIa** (new)
- MRI in MRI conditional device: **Class I** (was IIa)
- MRI in non-MRI conditional device if no alternative imaging: **Class IIa** (was IIb)

2021 ESC GUIDELINES

TYRX

In patients undergoing a reintervention CIED procedure, the use of an antibiotic-eluting envelope may be considered.^{685,688}

IIb

B

Considering cost-effectiveness aspects, the use of an antibiotic envelope may be considered in pacemaker patients at high risk for CIED infections. Risk factors to be considered in this context are end-stage renal disease, chronic obstructive pulmonary disease, diabetes mellitus, and device replacement, revision, or upgrade procedures.⁶³⁸

EHRA CONSENSUS STATEMENT

Table 4 List of recommended preventive measures for CIED infections

Consensus statement	Statement class	Scientific evidence coding	References
Antibiotic envelope in high-risk situations is recommended ^a		R	¹⁰

^aCandidates are those as defined in the WRAP-IT study population¹⁰ (patients undergoing pocket or lead revision, generator replacement, system upgrade, or an initial CRT-D implantation) and patients with other high risk factors as outlined in *Table 3*, considering also the local incidence of CIED infections. CIED, cardiac implantable electronic device; E, expert opinion; M, meta-analysis; O, observational studies; R, randomized trials.

Consensus statement related to a treatment or procedure	Definitions of consensus statement
Recommended/indicated or 'should do this'	Scientific evidence that a treatment or procedure is beneficial and effective. Requires at least one randomized trial, or is supported by large observational studies and authors' consensus

Blomström-Lundqvist C. *Europace* 2020; 22(4): 515-549