

Supplement Figures and Figure Legends

Figure S1

Referral review		
Heart failure history		Considerations
NYHA classification	<input type="checkbox"/>
CMP Etiology	<input type="checkbox"/>
OMT (≥ 6 months)	<input type="checkbox"/>
Antiplatelet therapy	<input type="checkbox"/>
Anticoagulation	<input type="checkbox"/>
Brady- and/or tachyarrhythmias	<input type="checkbox"/>
Upgrade	<input type="checkbox"/>
Pacemaker/Lead details	<input type="checkbox"/>
Additional evaluation		Considerations
12-lead ECG (QRS ms, QRS morph)	<input type="checkbox"/>
Holter (VPB/SVT/NSVT)	<input type="checkbox"/>
Echocardiography (EF, RV function)	<input type="checkbox"/>
Ischemia detection	<input type="checkbox"/>
Add cardiac imaging (CMR, biopsy)	<input type="checkbox"/>
Co-morbidities		Considerations
Thyroid disease	<input type="checkbox"/>
COPD	<input type="checkbox"/>
OSAS	<input type="checkbox"/>
Diabetes	<input type="checkbox"/>
Renal insufficiency (GFR/dialyses)	<input type="checkbox"/>
(treated) Malignancies	<input type="checkbox"/>
Cachexia or obesity	<input type="checkbox"/>
Anemia / Iron deficiency	<input type="checkbox"/>
Patient life-expectancy	<input type="checkbox"/>

Figure S1. Referral review checklist. Considerations to be checked at referral review, to ascertain completeness of indication and possible complicating factors for the procedure, follow up and probability of beneficial response to CRT.

CMP = cardiomyopathy. CMR = cardiac magnetic resonance imaging. COPD = chronic obstructive pulmonary disease. EF = Ejection fraction. GFR = glomerular filtration rate. NSVT = non-sustained

ventricular tachycardias. NYHA = New York Heart Association. OMT = optimal medical treatment. OSAS = obstructive sleep apnea syndrome. QRS ms = QRS-duration in milliseconds. QRS morph = QRS-morphology. RV = right ventricle. SVT = supraventricular tachycardias. VPBs = ventricular premature beats.

Figure S2

Pre-assessment checklist

Procedural considerations	Check	Action
• Allergies	<input type="checkbox"/>
• Diabetes (oral/insulin)	<input type="checkbox"/>
• Anticoagulation	<input type="checkbox"/>
• Antiplatelet agents	<input type="checkbox"/>
• Antibiotics	<input type="checkbox"/>
• Sedation protocol	<input type="checkbox"/>
• Discharge planning	<input type="checkbox"/>
• Informed consent	<input type="checkbox"/>
Contra-indications/complications	Check	Action
• Complaints	<input type="checkbox"/>
• Physical (pocket side)	<input type="checkbox"/>
• Laboratory	<input type="checkbox"/>
• Chest X-ray (lead positions)	<input type="checkbox"/>
Information and follow-up	Check	Action
• Restrictions arm movement	<input type="checkbox"/>
• Drivers licence	<input type="checkbox"/>
• Follow-up procedure	<input type="checkbox"/>
• Cardiac rehabilitation	<input type="checkbox"/>
• Remote monitoring	<input type="checkbox"/>

Figure S2. Pre-assessment checklist. Designed to ascertain thorough procedural planning and therefore eliminating unpredictable situations during and after implantation for physician as well as patient.

Figure S3

Pre-discharge check-up		
<i>CRT device and implant check</i>	<i>Check</i>	<i>Action</i>
• Device check-up	<input type="checkbox"/>
• Chest X-ray	<input type="checkbox"/>
• 12-lead ECG	<input type="checkbox"/>
• Pocket wound check up	<input type="checkbox"/>
<i>Follow-up advice and planning</i>	<i>Check</i>	<i>Action</i>
• Medication advice CRT specialist	<input type="checkbox"/>
• Anticoagulation strategy	<input type="checkbox"/>
• Patient education (do's and don'ts)	<input type="checkbox"/>
• Drivers licence	<input type="checkbox"/>
• Remote monitoring start up	<input type="checkbox"/>
• Follow-up appointments planned	<input type="checkbox"/>

Figure S3. Pre-discharge checklist. Completing this check-up makes sure short-term complications have been ruled out and patient has been educated and will be followed to minimize the chance of mid- to long-term complications.

CRT = cardiac resynchronisation therapy.

Figure S4

Optimization checklist		<i>Considerations</i>
<i>Heart failure evaluation</i>		
Decompensated HF	<input type="checkbox"/>
OMT	<input type="checkbox"/>
Compliance evaluation (fluid restriction/diet/intox/meds)	<input type="checkbox"/>
Reasons deterioration HF	<input type="checkbox"/>
<i>Considerations</i>		
<i>Electrocardiographic/device evaluation</i>		
Underlying narrow QRS complex	<input type="checkbox"/>
< 95% biventricular pacing	<input type="checkbox"/>
Arrhythmias (VPB/SVT/NSVT)	<input type="checkbox"/>
<i>Considerations</i>		
<i>Echocardiographic evaluation</i>		
Structural worsening of disease	<input type="checkbox"/>
Increased filling pressures	<input type="checkbox"/>
Suboptimal AV timing	<input type="checkbox"/>
Primary RV dysfunction	<input type="checkbox"/>
<i>Considerations</i>		
<i>LV-lead position evaluation</i>		
Chest X-ray lead position	<input type="checkbox"/>
scar region evaluation	<input type="checkbox"/>
<i>Considerations</i>		
<i>Co-morbidities</i>		
Anemia / Iron deficiency	<input type="checkbox"/>
Renal dysfunction	<input type="checkbox"/>
Deconditioning	<input type="checkbox"/>
Psychological status	<input type="checkbox"/>
Others*	<input type="checkbox"/>

Figure S4. Optimisation checklist. Structured check-up for optimisation of heart failure patients with CRT. Incorporating previously identified factors contributing to suboptimal benefit from therapy.

Adapted with permission from Mullens et al. ¹⁴

* = other comorbidities identified at referral review (figure 1).

AV = atrioventricular. HF = heart failure. Intox = intoxications. LV = left ventricular. NSVT = non-sustained ventricular tachycardias. OMT = optimal medical therapy. RV= right ventricular. SVT = supraventricular tachycardias. VPB= ventricular premature beats.