1 PATIENT INFORMATION

1 PATIENT DETAILS

NAME	Tobias K. Renner
DOB	06/24/1988
AGE / SEX	38 yrs / Male
MRN / PATIENT ID	7715028
DATE OF SERVICE	08/05/2026
PROVIDER	Simone Okafor, MD
CREDENTIALS	MD, FACC, AHFTC
REFERRAL SOURCE	Regional heart failure clinic — escalation for advanced therapies
VISIT TYPE	Advanced Heart Failure Follow-Up — LVAD and transplant evaluation
CARE SETTING	Outpatient Transplant-VAD Clinic
PRIMARY CARE PROVIDER	Lena Whitfield, NP
PRIMARY CARDIOLOGIST	Anders Kohl, MD

CC CHIEF COMPLAINT

2 PRIMARY HEART FAILURE CONCERN

"The milrinone pump is the only reason I can get across the room. I've been in the hospital four times since Christmas and my daughter is starting kindergarten this month. I want to know whether it's the pump or the transplant list, and I want to know now."

S SUBJECTIVE

3 PATIENT-REPORTED SYMPTOMS, FUNCTIONAL STATUS & INTERVAL COURSE

3a INDICATION & HEART FAILURE HISTORY

Reason for Heart Failure Evaluation

Advanced heart failure follow-up at week 6 of continuous home milrinone for INTERMACS profile 3 (stable but inotrope-dependent) nonischemic dilated cardiomyopathy. Visit purpose: review of the completed right heart catheterization and

CPET, right ventricular assessment for durable LVAD candidacy, psychosocial and caregiver review, genetic testing disclosure, and a decision on listing versus bridge-to-transplant LVAD ahead of selection committee on 08/12/2026.

Heart Failure History

Nonischemic dilated cardiomyopathy diagnosed 03/2021 at age 32 after presenting with a two-month history of exertional dyspnea and an incidental LBBB; initial LVEF 22%. Coronary angiography 2021 was normal, excluding an ischemic cause. Cardiac MRI showed mid-wall septal late gadolinium enhancement. CRT-D implanted 09/2022 for LVEF 24% with QRS 162 ms and LBBB, with only partial response. Four heart failure admissions since 12/2025, three requiring IV diuresis and one requiring inotrope initiation. No myocarditis, no valvular or congenital disease, no chemotherapy or radiation exposure. Family history is striking: father died suddenly at 46 with a “weak heart”, paternal aunt received a transplant at 51, and a paternal cousin has a pacemaker at 40 — prompting the genetic panel discussed below.

3b CONGESTION, FUNCTION & VOLUME STATUS

Dyspnea and Congestion Symptoms

Marked exertional dyspnea on minimal activity — dressing, showering, and walking twenty metres on the flat. Two-pillow orthopnea, unchanged. PND once or twice weekly. Bendopnea present when tying his shoes. Early satiety and abdominal bloating after half a normal meal, which he attributes to gut congestion. Trace ankle edema currently, markedly improved from the 3+ edema at his 06/2026 admission. Dry cough at night. No supplemental oxygen requirement.

Functional Capacity

NYHA class IIIb. Walks approximately 20–30 m before stopping. Unable to climb a single flight without a rest. Requires assistance from his wife with lower-body dressing on bad days. Formerly a commercial electrician, on long-term disability since 01/2026. Cardiac rehabilitation attempted twice and abandoned both times because of symptom limitation. 6-minute walk distance 248 m on 07/22/2026, down from 310 m in 01/2026.

Weight and Volume Status History

Daily home weights logged consistently on a shared phone application — excellent adherence. Current weight 71.4 kg against an estimated dry weight of 70–71 kg. Weight has been stable within 1 kg for four weeks on the current regimen. Reports approximately 1.8 L urine output daily. Fluid intake self-restricted to 1.5 L; sodium intake estimated at under 2 g with his wife doing all meal preparation. Diuretic response has become blunted — oral torsemide alone no longer holds him, which is what precipitated the milrinone decision.

Blood Pressure and Heart Rate History

Home systolic readings run 82–94 mmHg. Persistent lightheadedness on standing quickly, no syncope. Heart rate 78–90 on milrinone. Symptomatic hypotension has been the ceiling on every attempt to uptitrate sacubitril-valsartan and carvedilol.

3c ISCHEMIC, ARRHYTHMIC & DEVICE SYMPTOMS

Chest Pain / Ischemic Symptoms

No angina or angina equivalent. No nitroglycerin use. Normal coronary anatomy on angiography in 2021 and again on repeat catheterization 07/2026. No prior MI, PCI, or CABG.

Arrhythmia / Device Symptoms

CRT-D in situ. Frequent brief palpitations, generally after milrinone bag changes. Two device-treated NSVT runs in the last 90 days, no shocks and no ATP. Atrial fibrillation with rapid ventricular response during his 03/2026 admission, cardioverted, none since. No syncope. Remote monitoring active with no alerts in the last 30 days.

3d MEDICATIONS, ADVANCED THERAPY & INTERVAL EVENTS

Medication History and GDMT Tolerance

Milrinone 0.375 mcg/kg/min continuous via a tunnelled PICC since 06/24/2026. Sacubitril-valsartan 24/26 mg twice daily — three attempts to reach 49/51 mg all failed on symptomatic hypotension. Carvedilol 3.125 mg twice daily, halved during the 06/2026 admission and not yet restored. Spironolactone 12.5 mg daily, limited by a potassium of 5.3 in May. Dapagliflozin 10 mg daily, tolerated well. Torsemide 60 mg twice daily with metolazone 2.5 mg twice weekly. Apixaban 5 mg twice daily. Digoxin 0.125 mg daily with a level of 0.7. Adherence is meticulous, verified by pill count and by his wife. No affordability barrier — on a manufacturer assistance programme for sacubitril-valsartan.

Advanced Heart Failure Symptoms

Four hospitalizations in eight months. Escalating diuretic requirement culminating in inotrope dependence. Two failed attempts to wean milrinone (06/30 and 07/14), each producing recurrent congestion and a creatinine rise within 72 hours. Documented intolerance to GDMT uptitration on hypotension. Serum sodium 131–133 persistently. Unintentional 6 kg loss of lean mass over twelve months with a mid-arm circumference at the 15th percentile. Low-output symptoms of cold hands, difficulty concentrating, and profound afternoon fatigue. He meets multiple I-NEED-HELP criteria.

Transplant / LVAD Considerations

Referred for transplant evaluation 05/2026; evaluation now complete apart from the final committee review. Inotrope-dependent, INTERMACS profile 3. Psychosocial evaluation completed 07/28 and rated favourable: stable 11-year marriage, wife trained in central-line care and willing to serve as primary caregiver, mother available as secondary caregiver, private insurance with VAD and transplant benefits confirmed, 22 miles from the implanting centre. No tobacco, alcohol, or substance use for over five years, confirmed by serial toxicology. No adherence concerns whatsoever. Frailty score 4 (vulnerable). Genetic panel returned 07/30 with a pathogenic *LMNA* variant — disclosed today with cascade screening discussed for his daughter, siblings, and paternal cousins.

Relevant Medical History

CKD stage 3a with baseline creatinine 1.34 (cardiorenal), iron deficiency without anemia, hyponatremia, gout on allopurinol, mild obstructive sleep apnea on CPAP with good adherence, and depression in remission on sertraline 50 mg. No diabetes, no COPD, no prior stroke or thromboembolism, no malignancy.

Lifestyle / Self-Management

Exemplary. Fluid restriction 1.5 L, sodium under 2 g, daily weights logged without a gap since January, weekly medication box prepared with his wife, and a written heart failure action plan kept on the refrigerator that he can recite. Non-smoker, no alcohol, no stimulants. CPAP nightly. Walks to tolerance daily on physiotherapy advice.

Recent Testing / Hospitalizations

Admissions 12/2025, 02/2026, 03/2026, and 06/2026. Right heart catheterization with vasodilator challenge 07/20/2026. CPET 07/22/2026. Transthoracic echocardiogram 07/21/2026. Device interrogation 07/22/2026. Genetic panel resulted 07/30/2026. Full transplant laboratory and serology panel, PRA, and abdominal imaging completed 07/2026. No ED visits since discharge on 06/28.

Pertinent Negatives

Denies rest dyspnea at present, chest pain, syncope, ICD shocks, hemoptysis, fever, PICC-site pain or drainage, focal neurologic symptoms, melena, or bleeding on apixaban. No rapid weight gain, no worsening edema, no cold clammy extremities or mottling to suggest cardiogenic shock.

ROS HEART FAILURE REVIEW OF SYSTEMS

4 PERTINENT POSITIVES & NEGATIVES

Dyspnea, orthopnea, PND, bendopnea, cough, or reduced exercise tolerance	**Positive for all — NYHA IIIb, two-pillow orthopnea, PND 1–2 weekly, bendopnea, nocturnal dry cough.**
Edema, abdominal bloating, early satiety, weight gain, or decreased urine output	**Positive — early satiety and bloating persist. Trace edema only; weight stable, urine output preserved.**
Chest pain, chest pressure, palpitations, dizziness, presyncope, or syncope	**Palpitations and orthostatic dizziness positive. No chest pain, no syncope.**
Fatigue, weakness, poor appetite, cachexia, or sleep disturbance	**Positive — profound afternoon fatigue, poor appetite, 6 kg lean mass loss, fragmented sleep.**
ICD shocks, device alerts, or arrhythmia symptoms	**Two NSVT runs in 90 days, untreated. No shocks, no ATP, no remote alerts.**

Diuretic side effects, hypotension, lightheadedness, or medication intolerance	**Positive — symptomatic hypotension limits GDMT; blunted diuretic response; hyperkalemia limits MRA dose.**
Bleeding, bruising, anticoagulation issues, or thromboembolic symptoms	**Negative on apixaban. No bleeding, no thromboembolic events.**
Tobacco, alcohol, stimulant, diet, fluid, or medication adherence concerns	**None — abstinent over 5 years, adherence exemplary, diet and fluid targets met.**

O OBJECTIVE

5 OBSERVED FINDINGS

V VITALS

TEMPERATURE
36.4 °C

BLOOD PRESSURE
88/58 mmHg

HEART RATE
84 bpm, regular (paced)

RESPIRATORY RATE
20 /min

OXYGEN SATURATION
96% on room air

WEIGHT
71.4 kg

BMI
22.1 kg/m²

DRY WEIGHT
70–71 kg (estimated)

ORTHOSTATIC VITALS
88/58 supine to 78/52 standing, HR 84 to 96 — positive, symptomatic

5a GENERAL, CARDIOVASCULAR & PULMONARY

General Appearance

Thin, temporally wasted young man appearing older than his stated age. Speaks in short sentences and pauses to breathe after crossing the examination room. Milrinone pump in a shoulder bag. No acute distress at rest. Visibly deconditioned with reduced temporalis and interosseous bulk.

Cardiovascular

Rate 84, regular, biventricularly paced. Distant S1 and S2 with an audible S3 gallop. Laterally displaced, diffuse apical impulse in the anterior axillary line. Soft 3/6 holosystolic murmur at the apex radiating to the axilla consistent with functional MR, and a 2/6 holosystolic murmur at the left lower sternal border increasing on inspiration consistent with functional TR. JVP 10 cm H_2O with a positive hepatojugular reflux. Radial pulses low volume, 1+. Capillary refill 3–4 seconds. Trace bilateral ankle edema. Cool hands and forearms — a wet-and-cold-tending profile despite adequate diuresis.

Pulmonary

Fine crackles at both bases in the lower third. No wheeze. Mildly increased work of breathing with accessory muscle recruitment on exertion. No dullness to suggest a significant effusion. Room air.

5b ABDOMEN, EXTREMITIES, SKIN & NEUROLOGIC

Abdomen

Mildly distended without frank ascites. Non-tender. Liver edge palpable 3 cm below the costal margin, smooth and mildly

tender. No shifting dullness. Bowel sounds normal.

Extremities

Trace pitting edema to the ankles bilaterally. Cool to the mid-forearm and mid-calf. Pulses 1+ throughout, symmetric. No cyanosis, ulceration, or wounds. Muscle bulk reduced in the quadriceps bilaterally.

Skin

Pale, cool, and dry. No diaphoresis, mottling, or livedo. CRT-D pocket in the left prepectoral position, well healed, non-tender, no erythema or erosion. Right basilic tunnelled PICC site clean and dry with an intact transparent dressing, no erythema, tenderness, or drainage. No bruising.

Neurologic

Alert and fully oriented; reports difficulty sustaining concentration, which is evident during the visit. Cranial nerves intact. No focal motor or sensory deficit. Proximal strength 4/5 bilaterally, consistent with deconditioning. Gait slow and cautious; no ataxia.

DA DEVICE / ADVANCED THERAPY EXAMINATION

6 CARDIAC DEVICE & MECHANICAL CIRCULATORY SUPPORT

PACEMAKER, ICD, OR CRT DEVICE SITE FINDINGS

CRT-D, left prepectoral, implanted 09/2022 — healed, non-tender, no erosion

LVAD TYPE AND DRIVELINE SITE

None in situ — durable LVAD under evaluation

LVAD HUM AND MAP BY DOPPLER

Not applicable

TRANSPLANT SURGICAL SCAR OR POST-OPERATIVE FINDINGS

Not applicable — no prior cardiac surgery

CENTRAL LINE, PICC, OR INOTROPE INFUSION SITE FINDINGS

Right basilic tunnelled PICC (placed 06/24/2026) — clean, dry, intact dressing, no erythema, tenderness, drainage, or arm swelling

Device pocket tenderness, erythema, swelling, drainage, erosion, or hematoma

None. Pocket soft and mobile with intact overlying skin and no thinning.

Driveline / infusion line status

Milrinone infusing at 0.375 mcg/kg/min via ambulatory pump without occlusion or air alarms. Weekly dressing changes performed by home infusion nursing; last change 08/03 with no exit-site abnormality. Patient and spouse both independent in line care and pump troubleshooting.

Device parameters

CRT-D interrogation 07/22/2026: biventricular pacing 97.4%, RV lead threshold 0.9 V at 0.4 ms, LV lead threshold 1.5 V at 0.5 ms, atrial and ventricular sensing stable, HV impedance 58 Ω, battery estimated 3.4 years. Two NSVT episodes (7 and 11 beats), no therapies delivered. AF burden 0.3%. No alerts.

L HEART FAILURE TESTING / DIAGNOSTIC RESULTS

7 RESULTS REVIEWED OR ORDERED

EKG — 08/05/2026

Atrially sensed, biventricularly paced rhythm at 84 bpm. Paced QRS 148 ms. QTc 486 ms. Occasional PVCs. No acute ischemic change compared with 06/2026.

Echocardiogram — 07/21/2026

LVEF 17% by biplane Simpson (from 21% in 01/2026). LV end-diastolic dimension 7.4 cm, end-systolic 6.8 cm, globally severe hypokinesis. Moderate-to-severe functional mitral regurgitation with an effective regurgitant orifice of 0.28 cm^2. RV moderately dilated with a basal diameter of 4.6 cm; TAPSE 13 mm and RV S′ 8.4 cm/s, both indicating significant RV dysfunction. Moderate tricuspid regurgitation. Estimated RVSP 46 mmHg. IVC 2.3 cm with under 50% collapse. Grade III diastolic dysfunction. No LV thrombus on contrast. Small pericardial effusion, non-circumferential.

Cardiac MRI / CT

Cardiac MRI 04/2021: severe biventricular dilatation with mid-wall septal late gadolinium enhancement in a non-ischemic distribution, no infiltrative features, no evidence of myocarditis. Not repeated given the CRT-D. Non-contrast CT chest and abdomen 07/2026 for transplant workup showed no malignancy, no significant aortic or iliac calcification, and no chest wall or mediastinal abnormality relevant to surgical access.

Cardiac Catheterization

Coronary angiography 07/20/2026 confirmed angiographically normal coronary arteries, unchanged from 2021. LVEDP 26 mmHg.

Right Heart Catheterization — 07/20/2026

RA 14 mmHg. PA 52/26 with a mean of 35 mmHg. PCWP 24 mmHg. Transpulmonary gradient 11 mmHg. Cardiac output 3.2 L/min by thermodilution with a cardiac index of 1.71 L/min/m^2. SVR 1,540 dyn·s·cm^{-5}. PVR 3.4 Wood units, falling to 2.1 Wood units on inhaled nitric oxide — reversible pulmonary hypertension, not a contraindication to transplantation. Mixed venous saturation 49%. RA to PCWP ratio 0.58 and a pulmonary artery pulsatility index of 1.4 — both markers of borderline right ventricular reserve.

Stress Testing / Functional Testing — CPET 07/22/2026

Peak VO_2 10.4 mL/kg/min (28% predicted) with a respiratory exchange ratio of 1.14 confirming a maximal effort. VE/VCO_2 slope 41. Peak heart rate 112. Circulatory rather than ventilatory limitation. These values sit well within the range meeting transplant listing criteria. 6-minute walk 248 m.

Device Interrogation

As documented in section 6 — biventricular pacing 97.4%, two untreated NSVT runs, stable leads, no alerts.

Laboratory Studies — 08/04/2026

NT-proBNP 6,120 pg/mL (from 4,380 in 06/2026). Sodium 132 mmol/L, potassium 4.6, magnesium 2.0, bicarbonate 26. Creatinine 1.41 mg/dL (baseline 1.34), eGFR 58, BUN 38. Total bilirubin 1.6 mg/dL, AST 42, ALT 38, albumin 3.2 g/dL, INR 1.4 off warfarin. Hemoglobin 12.9 g/dL, platelets 176, white cells 6.2. Ferritin 42 ng/mL with transferrin saturation 14% — iron deficient. TSH normal. HbA1c 5.4%. Uric acid 9.1. Digoxin 0.7 ng/mL. Transplant serology, PRA (calculated PRA 0%), and blood group O-positive all documented.

Imaging

Chest radiograph 08/04/2026: cardiomegaly with a cardiothoracic ratio of 0.62, mild pulmonary vascular redistribution, small bilateral effusions, PICC tip at the cavoatrial junction, CRT-D leads intact and in position.

Prior Records Reviewed

Four discharge summaries from 12/2025 through 06/2026, right heart catheterization and CPET reports, echocardiographic trend from 2021 to date, CRT-D implant and interrogation records, transplant psychosocial evaluation 07/28, dietitian and physiotherapy assessments, the *LMNA* genetic report of 07/30, and home infusion nursing notes. Approximately 26 minutes of independent record review.

A ASSESSMENT

8 HEART FAILURE CLINICAL INTERPRETATION

- **Stage D nonischemic dilated cardiomyopathy, NYHA IIIb, LVEF 17% — now genetically defined.** A pathogenic *LMNA* variant explains the striking family history, the early conduction disease, and the relentlessly progressive course. Laminopathy carries a well-described high risk of arrhythmic death and rapid pump failure, and it materially raises the urgency of definitive therapy.
- **Inotrope-dependent, INTERMACS profile 3.** Six weeks of continuous home milrinone with two documented wean failures, each producing recurrent congestion and a creatinine rise within 72 hours. He is not going to come off inotropes with medical therapy alone.
- **Persistent congestion despite adequate diuresis and inotropic support.** JVP 10 cm, positive hepatojugular reflux, bibasilar crackles, tender hepatomegaly, PCWP 24, and a rising NT-proBNP. The profile is wet-and-cool with a cardiac index of 1.71 and a mixed venous saturation of 49%.
- **GDMT is at its ceiling.** Every uptitration attempt has failed on symptomatic hypotension with a systolic pressure of 88 and a positive orthostatic drop. Sacubitril-valsartan is stuck at the lowest dose, carvedilol is halved, and the MRA is capped by hyperkalemia. There is no medical headroom left.
- **Right ventricular function is the pivotal question.** TAPSE 13 mm, RV S′ 8.4 cm/s, RA/PCWP 0.58, and PAPi 1.4 together predict a meaningful risk of post-LVAD right heart failure. This is the single finding that should drive the committee discussion.
- **Pulmonary hypertension is reversible** — PVR falls from 3.4 to 2.1 Wood units on inhaled nitric oxide, so it is not a barrier to transplantation.
- **Cardiorenal and cardiohepatic dysfunction, both mild and stable.** Creatinine 1.41 with eGFR 58, bilirubin 1.6, INR 1.4, albumin 3.2. These are consistent with chronic low output rather than established end-organ failure, and they argue for acting before they worsen.
- **Cardiac cachexia and frailty.** Six kilograms of lean mass lost over twelve months, albumin 3.2, frailty score 4, iron deficiency with a transferrin saturation of 14%. Nutritional and iron repletion are modifiable surgical risk factors and should be addressed before any implant.
- **Arrhythmic risk is elevated but currently controlled.** Two untreated NSVT runs with 97.4% biventricular pacing and no therapies. The *LMNA* diagnosis nonetheless warrants a lower threshold for concern and close remote surveillance.
- **Psychosocial candidacy is strong.** Trained and willing caregiver, confirmed insurance coverage, proximity to the centre, five years of abstinence, and exemplary adherence. There is no psychosocial reason to withhold either therapy.
- **Formulation for committee:** he meets criteria for transplant listing on peak VO_2, hemodynamics, and inotrope dependence. The genuine decision is whether to list for transplant with continued inotropic bridging, or to implant a durable LVAD as a bridge to transplantation, accepting the RV risk that TAPSE 13 mm and PAPi 1.4 imply.

P PLAN

9 HEART FAILURE MANAGEMENT BY PROBLEM

- **Advanced therapies — the central decision:** present to the multidisciplinary selection committee on 08/12/2026 with a recommendation to list UNOS status 3 for transplantation while proceeding in parallel with durable LVAD planning as a bridge. Given a PAPi of 1.4 and TAPSE of 13 mm, the surgical plan should anticipate the need for temporary right ventricular support at implant. The alternative of listing on inotropes alone was discussed with the patient in detail; he understands the trade-off between waitlist time and the operative risk of a bridge device.

- **Right ventricular optimization before any implant:** repeat right heart catheterization at 4 weeks after nutritional and iron repletion to reassess PAPi and RA/PCWP. Maintain the milrinone dose — it is providing meaningful RV support and should not be weaned again.
- **Inotropic support:** continue milrinone 0.375 mcg/kg/min without further wean attempts. Home infusion nursing to continue weekly dressing changes and pump checks, with any exit-site change or fever reported the same day.
- **GDMT:** hold all uptitration. Continue sacubitril-valsartan 24/26 mg twice daily, carvedilol 3.125 mg twice daily, spironolactone 12.5 mg daily, and dapagliflozin 10 mg daily at current doses. Do not reduce further unless the systolic pressure falls below 80 with symptoms.
- **Diuretics and volume:** continue torsemide 60 mg twice daily and metolazone 2.5 mg twice weekly. Target the current weight of 71 kg as the working dry weight. Daily weights continue, with the action plan threshold set at a 1.5 kg gain over two days prompting a call to the VAD coordinator rather than self-adjustment.
- **Renal and electrolytes:** BMP and magnesium weekly through the committee date and again before any implant. Potassium target 4.0–5.0. Nephrology already engaged and will remain involved through the perioperative period.
- **Iron and nutrition:** intravenous ferric carboxymaltose 750 mg today with a second dose in one week for a transferrin saturation of 14%. Dietitian review scheduled 08/07 with a target of 1.2–1.5 g/kg of protein daily and oral nutritional supplementation twice daily. Prealbumin and albumin to be rechecked in 3 weeks as a preoperative marker.
- **Prehabilitation:** supervised low-intensity physiotherapy twice weekly to preserve functional reserve ahead of surgery, with symptom-limited targets and explicit avoidance of the intensity that defeated his previous rehabilitation attempts.
- **Device and arrhythmia:** continue CRT-D with 97.4% biventricular pacing. Increase remote transmission frequency to every two weeks given the *LMNA* diagnosis. No antiarrhythmic indicated at present. Electrophysiology to review the device plan preoperatively for LVAD compatibility.
- **Anticoagulation:** continue apixaban 5 mg twice daily for a prior AF episode with a dilated ventricle. Transition planning to warfarin will be required at LVAD implant and has been explained.
- **Genetics:** *LMNA* pathogenic variant disclosed today with 15 minutes devoted to the discussion. Formal genetic counselling referral placed for the patient. Cascade screening recommended for his 5-year-old daughter (deferred to age-appropriate timing with counselling), two siblings, and paternal cousins; contact letters provided.
- **Psychosocial and caregiver support:** psychosocial evaluation favourable and complete. VAD coordinator to begin caregiver training with his wife on 08/14 regardless of the committee outcome. Social work to confirm disability benefit continuity and travel support. Sertraline 50 mg continued; palliative care co-management referral placed for symptom support and advance care planning, framed explicitly as concurrent with active treatment.
- **Coordination:** note routed to Dr. Kohl, Ms. Whitfield, cardiothoracic surgery, the VAD coordinator, nephrology, genetics, dietetics, physiotherapy, social work, and palliative care. Committee packet to be assembled by 08/10.
- **Patient education:** 34 minutes spent on the LVAD versus listing decision, right ventricular risk in plain terms, the genetic diagnosis and its family implications, PICC and pump safety, the revised action-plan thresholds, and what to expect at committee.

F FOLLOW-UP

10 REASSESSMENT PLAN

Follow-up timeframe and purpose

Multidisciplinary selection committee 08/12/2026. Telephone contact from the VAD coordinator within 24 hours of committee with the decision. In-person advanced heart failure clinic in 2 weeks (08/19) for volume and nutrition reassessment and second iron infusion review. Weekly BMP and magnesium; prealbumin and albumin at 3 weeks. Repeat

right heart catheterization at 4 weeks for RV reassessment. Device remote transmissions every 2 weeks. Immediate return precautions for a 1.5 kg weight gain over two days, rest dyspnea, syncope, ICD shock, fever, PICC-site erythema or drainage, or pump alarm.

TB TIME DOCUMENTATION & BILLING

TOTAL TIME SPENT
80 minutes

COUNSELING / COORDINATION OF CARE TIME
34 minutes

RECORDS REVIEW TIME
26 minutes

DEVICE / TEST REVIEW TIME
12 minutes

ADVANCED THERAPY COORDINATION TIME
20 minutes — committee packet, surgery, VAD coordinator, genetics

BASIS FOR BILLING
Medical Decision Making (high complexity), with prolonged services

E/M LEVEL
99215 — established patient, high MDM; plus G2212 × 1 prolonged service

DEVICE INTERROGATION CODE(S)
Not billed — interrogation performed 07/22/2026

DIAGNOSTIC TEST INTERPRETATION CODE(S)
93010 — EKG interpretation and report

CARE COORDINATION CODE(S)
99451 — interprofessional consultation (cardiothoracic surgery, genetics)

PRIMARY ICD-10 DIAGNOSIS CODE
I42.0 — Dilated cardiomyopathy

SECONDARY ICD-10 DIAGNOSIS CODE(S)
I50.84 — End-stage heart failure; I50.22 — Chronic systolic heart failure; Z95.810 — Presence of automatic implantable cardiac defibrillator; I27.21 — Secondary pulmonary arterial hypertension; N18.30 — CKD stage 3a; E87.1 — Hyponatremia; E61.1 — Iron deficiency; R64 — Cachexia; I48.91 — Unspecified atrial fibrillation; Z14.8 — Genetic carrier, other; Z76.82 — Awaiting organ transplant status

SO PROVIDER SIGN-OFF

PROVIDER NAME	CREDENTIALS	SPECIALTY	DATE	TIME
Simone Okafor, MD	MD, FACC, AHFTC	Advanced Heart Failure & Transplant Cardiology	08/05/2026	11:26 AM