

Session 1

Breathlessness With a Preserved EF

Select a defensible next diagnostic step when symptoms and resting findings do not agree.

Facilitator review manuscript | 60-minute design target | Not a scheduled or delivered event

Minutes	Teaching task
0-5	Three baseline decisions; first responses locked
5-15	Evidence framework
15-40	Progressive case reveal, polling and faculty reasoning
40-50	Audience questions and implementation barriers
50-55	Three parallel post-case decisions
55-60	Synthesis and evaluation

Use the prepared frames with clinical faculty discussion, not as a timed self-running narration. The baseline and post case decisions require secure host capture. Presenter previews do not collect authoritative learner records. Complete clinical review and rehearsal before release.

Faculty preparation

Review the enduring case, current sources and complete labels. Declare and mitigate financial relationships through the provider. Agree who teaches each frame, who monitors questions and who resolves unanswered clinical issues. Test poll capture, captions, accessible materials, technical support and recording consent. Keep answer keys separate from the learner’s baseline view.

FRAME 1 / 10

The report says 63%. Her life says something changed.

- 58 years old; six months of reduced walking tolerance
- BMI 37; hypertension; remote severe preeclampsia
- NT-proBNP 88; no acute warning symptoms

Faculty facilitation

Open with the fictional track scene if useful, then stop the media. Ask participants to describe the clinical problem without naming a diagnosis. Invite one primary-care and one specialty perspective. Do not reveal a diagnostic answer before baseline polling. The purpose is to expose how learners use a reassuring EF and low peptide, not to make them guess a hidden fact. Ask what functional change would matter to Renee and which finding would change urgency.

Source: ACC HFpEF consensus: practical diagnostic and management framework. <https://www.acc.org/latest-in-cardiology/ten-points-to-remember/2023/04/17/16/40/2023-acc-expert-consensus-on-hfpef>

FRAME 2 / 10

Three opening decisions

- Answer independently before faculty discussion
- Recognition • confirmation • alternatives
- No passing requirement for baseline responses

Faculty facilitation

Allow about one minute per item. Use the pre items in the import file. Lock the first submitted responses before discussion, retain nonresponse separately and display the distribution without identifying learners. Do not count repeat poll clicks as new participants. The production platform, not this presenter preview, must collect the records.

Source: ACC HFpEF consensus: practical diagnostic and management framework. <https://www.acc.org/latest-in-cardiology/ten-points-to-remember/2023/04/17/16/40/2023-acc-expert-consensus-on-hfpef>

FRAME 3 / 10

Preserved EF is one measurement

- Symptoms/signs need objective cardiac evidence
- Review the full echo, rhythm and clinical context
- HFpEF is not synonymous with any diastolic abnormality

Faculty facilitation

Explain the difference between ejection fraction and the pressure or reserve required to meet exertional demand. Ask what the EF report cannot tell us. Build a short list: filling-pressure evidence, valve disease, right-sided findings and alternate explanations. Contrast HFpEF with HFrEF and HFmrEF so participants understand why study entry criteria may cross clinical categories. Avoid a prolonged pathophysiology lecture; connect each concept to the next decision.

Source: ACC HFpEF consensus: practical diagnostic and management framework. <https://www.acc.org/latest-in-cardiology/ten-points-to-remember/2023/04/17/16/40/2023-acc-expert-consensus-on-hfpef>

FRAME 4 / 10

Interpret the biomarker in its setting

- Obesity can lower concentrations
- AF and kidney dysfunction can raise concentrations
- A laboratory flag is not a diagnostic conclusion

Faculty facilitation

Ask faculty to explain why a single universal interpretation fails. Review the actual units, rhythm and renal context. The Reddy 2025 outpatient study supports caution in obesity, but its selected diagnostic cohorts do not establish a population screening rule. Do not replace the usual cutoff with an invented women-specific threshold. Invite participants to identify the most common false reassurance in their workflow.

Source: Reddy et al. Natriuretic peptides in ambulatory HFpEF assessment. Circulation 2025.
<https://pmc.ncbi.nlm.nih.gov/articles/PMC12021425/>

FRAME 5 / 10

Reveal: the resting workup is intermediate

- No major valve lesion or clear anemia
- Complete HFA-PEFF score: 3
- Symptoms remain reproducible with exertion

Faculty facilitation

Pause before naming a next test. Ask the panel what information is still missing and whether the answer would change treatment. Explain why missing measurements cannot be scored as normal. HFA-PEFF and H2FPEF organize probability through different inputs; selecting whichever score is higher is not a validated adjudication. Ask participants to describe a referral question in one sentence.

Source: Pieske et al. HFA-PEFF diagnostic algorithm. <https://pubmed.ncbi.nlm.nih.gov/31504452/>

FRAME 6 / 10

Choose testing that resolves the uncertainty

- Appropriate exercise assessment may reveal exertional physiology
- Inconclusive noninvasive testing may lead to specialist hemodynamics
- Feasibility, expertise and patient circumstances matter

Faculty facilitation

Use a progressive reveal: exercise echocardiography remains nondiagnostic, and Renee wants an explanation before committing to long-term therapy. Discuss when invasive exercise assessment is reasonable and when another targeted test is more useful. The faculty should address local access barriers and alternatives. Do not teach catheterization as obligatory for every patient with obesity or dyspnea.

Source: Pieske et al. HFA-PEFF diagnostic algorithm. <https://pubmed.ncbi.nlm.nih.gov/31504452/>

FRAME 7 / 10

Keep competing explanations visible

- Ischemia, important valve disease and rhythm disorders
- Anemia, lung disease and deconditioning
- Infiltrative or other structural disease when clues suggest it

Faculty facilitation

Ask the panel to name one clue that would redirect the case rather than add another generic test. A history or finding suggestive of amyloidosis, significant valve disease or pulmonary disease changes the pathway. Explain that obesity can coexist with these conditions. This discussion should make diagnostic uncertainty explicit without implying that all possible conditions are equally likely.

Source: ACC HFpEF consensus: practical diagnostic and management framework. <https://www.acc.org/latest-in-cardiology/ten-points-to-remember/2023/04/17/16/40/2023-acc-expert-consensus-on-hfpef>

FRAME 8 / 10

The referral must return an answer

- State the functional loss and unresolved question
- Attach full echo, rhythm, biomarker and relevant results
- Assign responsibility for the next contact

Faculty facilitation

Have the PA or NP moderator read an example: persistent exertional dyspnea with obesity and hypertension, preserved EF and intermediate resting assessment; evaluate for HFpEF and mimics. Ask the specialist what would make that referral actionable. Then ask who will tell Renee the result. Discuss one practical barrier from the audience and the local steps needed to resolve it.

Source: ACC HFpEF consensus: practical diagnostic and management framework. <https://www.acc.org/latest-in-cardiology/ten-points-to-remember/2023/04/17/16/40/2023-acc-expert-consensus-on-hfpef>

Questions that change the plan

- What if advanced testing is unavailable?
- What if symptoms become acute?
- What finding would make you change your working diagnosis?

Faculty facilitation

Reserve ten minutes for actual audience questions and a moderated barrier discussion. If questions are sparse, use these prompts. New resting chest pressure, syncope or severe breathlessness triggers urgent assessment; a scheduled diagnostic test is not an acute-care plan. Record unanswered clinical questions for faculty follow-up through the host, without collecting identifiable patient histories.

Source: ACC HFpEF consensus: practical diagnostic and management framework. <https://www.acc.org/latest-in-cardiology/ten-points-to-remember/2023/04/17/16/40/2023-acc-expert-consensus-on-hfpef>

FRAME 10 / 10

Apply the decision to a new patient

- Complete the three parallel post cases
- Name one change to the diagnostic workflow
- Use the enduring case to revisit the reasoning

Faculty facilitation

Use post items after teaching, before displaying the answer key. Allow five minutes for the three decisions and five for synthesis and evaluation. Review why the plausible wrong answers fail. Preserve the first post attempt for outcomes. Conclude with the practical action: unresolved symptoms deserve an explicit question and a plan to obtain the missing evidence. Credit and attendance rules belong to the provider.

Source: Pieske et al. HFA-PEFF diagnostic algorithm. <https://pubmed.ncbi.nlm.nih.gov/31504452/>

Assessment and rationale key

Host/faculty use. Preserve independent first baseline and post responses before feedback. Parallel variants assess the same concept; validate their clarity and difficulty in the pilot.

Pre cases

S1-recognition-pre

Renee, 58, has BMI 37, progressive exertional dyspnea, EF 63% and NT-proBNP 88 pg/mL. No acute warning symptoms are present. What is the best next step?

- A. Attribute limitation to obesity and prescribe exercise alone.
- B. Review complete cardiac findings and competing causes; a low peptide does not exclude HFpEF.
- C. Confirm HFpEF from the BMI and symptoms.
- D. Close cardiac evaluation and obtain pulmonary testing only.

Best answer: B. Preserved EF and a low peptide are not sufficient to dismiss the syndrome in obesity. Evaluate cardiac and noncardiac explanations before establishing a diagnosis.

S1-confirmation-pre

A complete HFA-PEFF assessment is 3 and exertional symptoms persist. Which step is most appropriate?

- A. Confirm HFpEF because the score is above zero.
- B. Assign zero to any missing variable and repeat the total.
- C. Arrange appropriate functional assessment or specialist evaluation.
- D. Repeat a resting EF in a year.

Best answer: C. An intermediate score organizes uncertainty. Functional evaluation may resolve what resting measurements cannot.

S1-alternatives-pre

A woman with suspected HFpEF now reports new resting chest pressure and breathlessness. What should happen?

- A. Continue the planned exercise-test appointment next month.
- B. Arrange emergency assessment now.
- C. Try an extra diuretic dose and wait for improvement.
- D. Use an outpatient peptide result before deciding.

Best answer: B. New resting chest pressure with breathlessness requires urgent assessment, independent of an earlier reassuring EF.

Post cases

S1-recognition-post

A 66-year-old woman with BMI 39 has declining walking tolerance, EF 61% and NT-proBNP 96 pg/mL. Which conclusion best guides care?

- A. The laboratory value makes cardiac disease unlikely enough to stop testing.
- B. Her EF confirms that the symptoms are noncardiac.
- C. The findings remain inconclusive and require structured evaluation in context.
- D. HFpEF is established and all HF therapies should start immediately.

Best answer: C. This is unresolved diagnostic probability, not a negative evaluation or a confirmed syndrome. Obtain the evidence that can explain her functional loss.

S1-confirmation-post

Resting testing is nondiagnostic. Exercise echocardiography is also inconclusive, and knowing whether HFpEF is present would change treatment. What should be considered?

- A. Referral for invasive exercise hemodynamics at an experienced center.
- B. Averaging two different diagnostic scores.
- C. Using symptom response to a diuretic as diagnostic proof.
- D. Diagnosing HFpEF because the patient has hypertension.

Best answer: A. In selected patients, specialist invasive exercise assessment can clarify unresolved hemodynamic uncertainty. This is not a routine test for every patient with obesity.

S1-alternatives-post

A woman awaiting outpatient HFpEF testing develops severe breathlessness at rest and chest pressure. What is the best next step?

- A. Keep the planned outpatient test as the next step.
- B. Arrange emergency assessment now.
- C. Increase the diuretic and wait until the next morning.
- D. Wait for a new NT-proBNP result before escalating.

Best answer: B. New severe resting symptoms require urgent assessment. A prior preserved EF and a planned outpatient evaluation do not provide reassurance about an acute change.

Followup cases

S1-recognition-followup

At follow-up, a woman with obesity still cannot walk her usual distance despite a preserved EF and unflagged NT-proBNP. What is the best response?

- A. Reassure her on the basis of both tests.
- B. Reassess symptoms, full echo findings and alternatives, then resolve remaining uncertainty.
- C. Diagnose HFpEF solely from persistent symptoms.
- D. Wait for edema before reconsidering cardiac disease.

Best answer: B. Persistent unexplained limitation warrants reassessment. A normal-range peptide is less reassuring in obesity and edema is not required to pursue the question.

S1-confirmation-followup

Persistent exertional dyspnea remains unexplained after a complete intermediate-probability resting evaluation. Which referral is most useful?

- A. Repeat EF only.
- B. Assess for HFpEF and mimics with functional testing as indicated; attach current findings and the clinical question.
- C. Start indefinite HF therapy without further evaluation.
- D. Confirm the higher of two discordant scores.

Best answer: B. A focused referral identifies what is unresolved and gives the receiving team the information needed to select appropriate testing.

S1-alternatives-followup

A patient awaiting routine HFpEF assessment develops syncope with severe breathlessness. What is the appropriate pathway?

- A. Routine follow-up after the echo report arrives.
- B. Record the episode for the next clinic visit.
- C. Arrange immediate emergency assessment; do not wait for routine HFpEF testing.
- D. Use a clinical score to decide whether symptoms are important.

Best answer: C. Acute warning symptoms take priority over the planned diagnostic pathway. A probability score must not delay escalation.