A 70-year-old man with a large hiatus hernia (HH) underwent stress echocardiography to investigate exertional dyspnea. His resting echocardiogram showed mild left atrial (LA) compression by an HH (A), confirmed on computed tomography (CT) (E).

After 6 min of exercise (Bruce protocol), he experienced severe dyspnea and pre-syncpe, and his blood pressure fell from 160/80 to 105/70 mm Hg. Stress echocardiogram revealed almost complete obliteration of the LA cavity by the HH (C, Online Video 1). After surgical HH repair, repeat echocardiography and computed tomography showed no evidence of LA compression at rest (B, F) or with exercise (D), and his exercise time improved significantly to 11 min.

The close anatomic relationship of HH to the LA allows extrinsic LA compression. With exercise, increased intra-abdominal pressure may force the HH upward, worsen LA compression, and impair left ventricular (LV) filling. Exercise-induced LA compression may be important in explaining exertional dyspnea and pre-syncpe in such patients.