# [Elevated ventricular filling pressures and long-term survival in adults post-Fontan.](https://www.ncbi.nlm.nih.gov/pubmed/31145542)

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Catheter Cardiovasc Interv. 2019 May 30. doi: 10.1002/ccd.28340. [Epub ahead of print]

PMID: 31145542

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**Take Home Point:**

* Though elevated VEDP portends a poor long-term prognosis, PAWP was better in predicting mortality amongst the many other factors we assess in Fontan patients. However, if it is normal, we cannot necessarily be reassured.



***Commentary by Dr. Helen Parry (Leeds, United Kingdom), section editor of ACHD Journal Watch:*** Diastolic dysfunction is part of the natural history of patients with Fontan palliations – ventricular end diastolic pressures (VEDP) and pulmonary capillary wedge pressure (PCW) serve as surrogates for left atrial pressures (LAP). Data pertaining to the haemodynamic predictors of survival in this cohort are limited.

This study from the Mayo clinic, enrolled 148 adult patients with Fontan circulation who underwent cardiac catheterisation within an 18-year period (December 1999 to November 2017). Patients with atrioventricular prostheses were excluded. Findings with respect to ventricular end diastolic pressure and pulmonary artery wedge pressure were correlated with mortality.

Mean age at the time of Fontan was 10.1±8.1 years. The mean ventricular ejection fraction was 51.1% and the atrioventricular regurgitation was more than moderate in 24 patients (16.2%). Mean VEDP was 11.5 ±4.7mmHg and PAWP 10.6 ± 4.5 mmHg.

PAWP correlated better with Fontan pressures compared to VEDP (correlation coefficient 0.82 vs 0.63, p<0.0001).



Patients were followed up for a mean of 6.0±4.8 years. A total of 45 deaths occurred during this period (30.4%). Survival was greater in those with a VEDP <12 compared to a VEDP >12 mmHg (p=0.02). Similarly this held true for patients with a PCWP using a cut-off of 12mmHg. There was no survival difference in those patients with a VEDP > 12 mmHg vs VEDP <12mmHg if the PCWP was <12mmHg.



Pulmonary artery wedge pressure was a better predictor of mortality than ventricular end diastolic pressure.

**Positive aspects of the study:**

* Large sample size for a Fontan study
* Reproducible methodology
* Offers a tool for helping to predict outcome in Fontan patients

**Negative aspects of the study:**

* The team point out that many patients who died after the catheter study did not have raised PAWP. This was far in excess of what would be expected for background, non-Fontan related deaths.
* No potential measures are suggested to prevent deterioration.