

## Parental stress and echocardiography for innocent murmurs in children

Professor Samuel Menahem

Dr Fiona Ip

Professor Margaret Hay

Melbourne Children's Cardiology

Caulfield VIC 3161

samuel.menahem@monash.edu

Dr Lang et al<sup>1</sup> downplay the additional benefit of echocardiography in reducing parental anxiety, *following and not instead of*, counselling by the cardiologist<sup>2</sup> – one who acknowledges the importance of listening and communicating with his patients<sup>3</sup>. Our paper was strongly endorsed by an experienced congenital cardiologist, confirming his clinical impression that echocardiography further reduced parental anxiety despite reassurance that the murmur was innocent and the heart normal<sup>4</sup>. Measuring the likely drop in anxiety level prior to the child being seen if that was possible, and again following the diagnosis and explanation, does not detract from a further drop in parental anxiety following the echocardiogram. Despite that a few parents remain concerned, posing challenges for all.

Echocardiograms by stand-alone services are not ideal, because echocardiography is operator-dependent and needs correlation with clinical findings. Child referrals are made for "leaky valve" or "hole in the heart" arising from reported trivial (physiological) tricuspid incompetence, or a patent foramen ovale respectively, neither the cause of an innocent murmur.

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Lang et al.<sup>1</sup> questioned whether an innocent murmur diagnosed by a paediatric cardiologist warrants an echocardiogram. Our companion paper<sup>5</sup> reported 3 children out of 62 with innocent murmurs had cardiac abnormalities – congenitally corrected transposition of the great vessels, left ventricular non-compaction which led to a diagnosis of a genetic microdeletion, and a partial anomalous pulmonary venous drainage which now awaits surgery. One child's clinical diagnosis of an innocent murmur was revised when the echocardiogram showed a small muscular VSD.

Dr Alex Venables, the pioneer of childhood heart disease in Australia, taught that a child referred to a paediatric cardiologist warrants a correct and complete diagnosis. When a general paediatrician sees a patient and confidently diagnoses an innocent murmur, it seems reasonable to inform the parents, mention the availability of echocardiography, but only proceed to echocardiography if the parents strongly wish for it to be carried out. Otherwise it is reasonable to reassure and explain the findings. A cardiologist referred a child for elucidation of a murmur, will normally perform echocardiography as “the final arbiter as to whether the heart is normal or not”<sup>4</sup>. The Pediheart Podcast quotes Dr Bill Evans<sup>4</sup>, Founder of the Children's Heart Center Nevada: “Normalcy cannot be assured by a 19th century imprecise screening tool (discovered 1819), as way too many positive echocardiograms in the face of negative auscultatory findings in my 40 years (experience). Same for all of our doctors (15 paediatric cardiologists) who do their own echocardiograms and can immediately correlate auscultatory and echo findings...” He champions the value of a non-invasive investigation, relatively inexpensive at least in Australia, which allows for a definitive diagnosis. The earlier guidelines may need revising in the light of further knowledge<sup>4,5</sup>.

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**Author/s:**

Menahem, S; Ip, F; Hay, M

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