

The Prospective Athlete Heart Study- elucidating genetic determinants of cardiac remodelling using endurance exercise as an environmental stress.

ACTRN12618000716268

Status	RECRUITING
Sponsor	St. Vincent's Institute of Medical Research
Enrollment	480 participants

Plain Language Summary

The heart adapts in remarkable ways to years of intense exercise training — it grows larger, pumps more efficiently, and remodels its structure. But why some athletes' hearts adapt much more dramatically than others remains a mystery. Genetics is thought to play a major role, but the specific genes involved have not yet been identified. The Prospective Athlete Heart Study is tracking young endurance athletes and non-athletes over two years to see how their hearts change, and then comparing the genetics of those with the biggest and smallest adaptations.

Heart structure will be measured using the most advanced cardiac imaging available, including MRI. Identifying genetic variants linked to dramatic heart remodelling could eventually help doctors identify athletes — or non-athletes — whose hearts might remodel in unhealthy ways, allowing early intervention.

You may be eligible if you are aged 16 to 23 years and are either a serious endurance athlete (competing and training intensively, planning to continue for at least five more years) or a non-athlete (less than two hours of endurance activity per week, not enrolled in a fitness program). People with known cardiovascular disease, high blood pressure, smoking history, or conditions preventing MRI scans are not eligible. This is a two-year commitment involving heart scans and health assessments.

Key Eligibility Criteria

Inclusion (2)

- Endurance athletes, male and female, aged 16-23 years, competing in endurance sports in which aerobic fitness conditioning is a principal component of performance. Aiming to be involved in competition and high level training for more than 5 years.
- Non-athletes, male and female, aged 16-23 years, less than 2 hours of endurance activity per week, not competing in an endurance sport, not enrolled in a fitness program to improve fitness.

Exclusion (5)

- Known cardiovascular disease
- Cigarette smoking (current or previous)
- Moderate or severe hypertension.
- Use of performance enhancing drugs.
- A contraindication to magnetic resonance imaging

Locations (4 total)

Baker Heart and Diabetes Institute - Melbourne, SA,VIC, Australia
South Australian Health and Medical Research Institute (SAHMRI) - Adelaide, SA,VIC, Australia
St Vincent's Hospital (Melbourne) Ltd - Fitzroy, SA,VIC, Australia
... and 1 more locations

<https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?ACTRN=ACTRN12618000716268>

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