

# Anorexia Nervosa

## Anorexia Nervosa

Eating disorders constitute some of the major medical health problems in the western world. Sufferers share symptoms such as a distorted view of one's own body shape and weight, and extreme disturbances in their eating behaviour, which may present a serious health threat. Anorexia nervosa, bulimia nervosa and binge-eating are some of the most common disorders associated with restricted food intakes or bingeing, as well as distress or excessive concern about body shape or weight.

We now know that the central nervous system plays a significant role in the mechanisms behind the abnormal eating behaviour. In a world surrounded by pressure to be thin, close to 80% of teenage girls start a diet. Some slip down the dieting slope into anorexia.

Anorexia nervosa is an eating disorder of unknown origin that most commonly occurs in women and usually has its onset in adolescence. It affects around 4200 people in NSW alone. Interestingly, before puberty one in every four sufferers of anorexia is male. After puberty, one in eleven sufferers is male, though this ratio is on the increase for males.

Patients with anorexia invariably have a disturbed body image and an intense fear of weight gain. Anorexia is the third most common chronic illness in girls and young women (after obesity and asthma) and as many as one in 200 girls and young women will be affected. The average duration of the illness is five to seven years. Anorexia has a high mortality rate (20% eventually die of the consequences of the disease) and one in five will at least attempt suicide. Sadly, anorexia nervosa today has no definitive treatment.

## What are the symptoms of anorexia?

- Being afraid of gaining weight
- Feeling fat despite being very thin
- Preoccupation with food, such as obsessive calorie counting
- Rapid weight loss and not wanting to eat
- Maintaining a body weight below one's healthy resting weight
- Obsessive weighing
- Amenorrhea in women - irregular or absent menstrual cycle
- Feeling depressed and irritable
- Denying that anything is wrong

## What causes anorexia?

The causes of anorexia are unknown, but the risk factors associated with eating disorders are becoming clearer. Some of the contributing factors include:

- Gender – females are at a higher risk, particularly after puberty
- Genetics – the risk of developing anorexia increases 10-fold if another family member has developed anorexia
- Personality traits – characteristics such as perfectionism, negative self-evaluation and food obsessions
- Dieting – dieting is the most common feature and a trigger for the condition
- Traumatic events – physical, sexual or emotional abuse, bullying at school, death or illness of a family member can all trigger or exacerbate the condition



**"4200 people in NSW suffer from anorexia nervosa."**

**"One in every 11 sufferers of anorexia after puberty is male."**

**"The risk of developing anorexia increases 10-fold if another family member has developed anorexia."**



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## Getting help

Anyone who is affected by an eating disorder, regardless of its perceived severity, deserves access to support and treatment. It is vital to get help sooner rather than later. The longer anorexia is experienced the more difficult it is to start the recovery process.

At present, a variety of pharmacological treatments are used in addition to psychotherapy, antidepressants being most common. Unfortunately, currently available drugs, while helpful, fall far short of the desired level of effectiveness.

The most effective strategy for anorexia nervosa is multidimensional treatment that consists of nutritional rehabilitation, medical attention, individual cognitive psychotherapy, and family counselling or therapy.

## What research is Garvan doing in this area?

Garvan's Neuroscience Program is utilising the extensive experience of our scientists and state-of-the-art technology to study the significant role of a specific brain peptide system in the regulation of energy balance and weight control. There is an intricate regulatory system that governs our appetite and energy intake. Certain proteins such as neuropeptide Y (NPY) enhance appetite and induce feeding while others, such as leptin, act as a satiety factor.

Abnormalities in the neuropeptide system have been reported in people suffering from anorexia nervosa. In addition to disturbances in the brain, other factors linked to the brain and our responses to food, such as taste, smell, palatability and visual appearance of food, may also play a role in eating disorders. Recently, it has been discovered that NPY also appears in the taste-bud cells, suggesting that this molecule can exert its effect on appetite both via the brain and the taste organs. This may represent a neural mechanism that links taste aversion and eating disorders. The research carried out at Garvan will investigate the functional contributions of the neuropeptide Y system in relation to the development and manifestation of anorexia.

Studies have also shown that a gut-derived hormone called peptide YY (PYY) which promotes satiety in normal subjects is abnormally high in people with anorexia. Apart from inducing nausea, high PYY levels were also found to be associated with decreased body weight, body mass index and bone composition in subjects with anorexia.

In our laboratory, we have also shown that mice with high levels of PYY have decreased fat and bone mass, suggesting that the loss of body fat and bone tissue in young people with anorexia may be caused by these high circulating PYY levels. Our aims are to determine whether methods to block PYY levels in anorexia subjects may have beneficial effects in restoring body weight, body composition and food intake.

We hope that eventually our research will lead to new, targeted medicines for anorexia nervosa and will contribute to greater recovery rates for sufferers.

## Further sources of information

Eating Disorders Foundation [www.edf.org.au](http://www.edf.org.au)

The Centre for Eating & Dieting Disorders [www.cedd.org.au](http://www.cedd.org.au)

## Garvan Institute of Medical Research – how you can get involved

The Garvan Institute of Medical Research was founded in 1963. Initially a research department of St Vincent's Hospital in Sydney, it is now one of Australia's largest medical research institutions with approximately 400 scientists, students and support staff. Garvan's main research programs are: Cancer, Diabetes & Obesity, Arthritis & Immunology, Osteoporosis, and Neuroscience.

Your support makes it possible for the Garvan scientists to continue their great work. You can help by making a donation or a bequest, holding a community fundraiser or volunteering your time for Garvan. For details on how to get involved, please visit [www.garvan.org.au](http://www.garvan.org.au) or contact our Supporter Services Manager on (02) 9295 8110.

Education is one of Garvan's top priorities. Our Public Awareness and Community Education (PACE) Manager can visit your community group or school to give a talk on a number of science and health related topics. Garvan also offers regular tours of our facilities. For further details, visit our website or call our PACE Manager on (02) 9295 8108.

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