Is it ACROMEGALY?

A patient’s guide to diagnostic testing
Disclaimer
This book is intended as a general introduction to the topic and in no way should be seen as a substitute for your own doctor’s or health professional’s advice. All care is taken to ensure that the information contained in this book is free from error and/or omissions; however, no responsibility can be accepted by the Australian Pituitary Foundation, author, editor, or any person involved in the preparation of this book for loss occasioned to any person acting or refraining from action as a result of material in this book. Before commencing any health treatment, always consult your doctor.
Is it acromegaly?

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About the Australian Pituitary Foundation
The mission of the Australian Pituitary Foundation Ltd (APF) is to provide support for those who have experienced pituitary gland conditions. We promote awareness and disseminate information among the medical community, public, pituitary patients and their families. We welcome anyone with an interest in pituitary disorders to join us – see page 17 for contact details.

About this booklet
This booklet aims to provide information for people going through the sometimes frustrating process of determining if they have acromegaly. It covers tests you may have while you are being diagnosed. The booklet also includes tips from APF members – these are indicated in italics.

A book, ‘Understanding Your Pituitary Problems’, is also available from the APF upon joining. The book addresses the symptoms, diagnosis and treatment of acromegaly and other major pituitary conditions, and helps patients and their families understand and manage their illness.

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Written by Jennifer Gan (Accuwright Medical®) on behalf of the Australian Pituitary Foundation.
Acromegaly is a condition caused by too much growth hormone being released by the pituitary gland. In around 99% of cases, this is due to a benign tumour on the pituitary gland (pituitary adenoma). In the remaining 1% of patients, the cause is a growth hormone-secreting tumour somewhere else in the body.

If excess growth hormone secretion starts in childhood, the child will grow extremely tall (a condition also known as gigantism). This is because the growth plates at the end of the long bones in children’s arms and legs have not sealed and so new bone growth adds extra height. Untreated young people can end up well over 8 feet tall (2.4 m).

If the condition occurs after the long bones have sealed (usually before the age of 15 in males, or 14 in females), acromegaly produces a more gradual change in appearance. This includes enlargement of the hands, feet and nose; and thickening of bones, causing the jaw to become more prominent. These changes occur slowly, so there can be a considerable gap – often ten years or more – between the time the condition starts and the time it is diagnosed.

Figure 1.
Possible symptoms of acromegaly.
Once acromegaly is suspected, tests will be needed to confirm the diagnosis. The next section walks you through some of these tests. You will probably not have all of these tests, but you will have some of them. The exact details of each procedure may vary from centre to centre, but the following descriptions aim to give you an idea of what to expect. However, it is important that you always follow your doctor’s or pathology centre’s instructions rather than relying on information in this booklet.

For all tests, the APF recommend you request a copy of your results, which you keep in your own folder at home. This can be a valuable asset when visiting specialists who haven’t seen you before. Having all your results together in one place is extremely useful to help doctors get a clearer picture of your condition.

### Common Tests

#### Physical examination

The following checklist contains symptoms and signs that can be present in acromegaly. Your doctor will check for the following when they examine you. Tick the symptoms that apply to you.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Enlarged hands and feet (changes in shoe and ring size)</td>
<td>Tiredness</td>
</tr>
<tr>
<td>Enlarged facial features (nose, lips, jaw, tongue)</td>
<td>Numbness, tingling or burning sensations in the hands or feet</td>
</tr>
<tr>
<td>Soft tissue swelling</td>
<td>Deepening of the voice</td>
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<tr>
<td>Increased sweating, change in skin odour</td>
<td>Low sex drive</td>
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<tr>
<td>Headache</td>
<td>Carpal tunnel syndrome</td>
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<tr>
<td>Erectile dysfunction</td>
<td>Snoring and sleep apnoea</td>
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<tr>
<td>Pain in the joints (arthritis)</td>
<td>Muscle weakness</td>
</tr>
<tr>
<td>Gaps forming between teeth in the lower jaw</td>
<td>Thick, oily skin; skin tags</td>
</tr>
</tbody>
</table>

Table 1. Checklist of possible signs and symptoms of acromegaly.

Figure 2. Enlarged hands, feet and jaw can be seen in Daniel, APF member with acromegaly.

You can track the changes in your body by looking back over old photos. It can be helpful to take these to the doctor to help them understand how your body has changed and why you are concerned about it.

If you have several physical signs or symptoms, your doctor may suspect acromegaly and order blood tests to check the level of certain hormones in your system.

**Blood tests**

The first tests you are likely to have are baseline blood tests. These will include standard blood tests, such as a full blood count and blood sugar levels (separate tubes of blood will be needed for those tests) along with tests for liver and kidney function. You are also likely to be tested for levels of all pituitary hormones, to give a picture of what’s happening with your pituitary function. For acromegaly, the most important results are your GH and IGF-1 levels.
**GH, IGF-1 levels**

**Purpose:** The GH test checks the level of growth hormone in your blood. This is the hormone that the pituitary tumour overproduces in acromegaly. The IGF-1 test checks the level of insulin-like growth factor in your blood. People with acromegaly produce more IGF-1 (a protein which mediates the growth-promoting actions of GH), so this is another useful marker of acromegaly.

**Procedure:** These are like ordinary blood tests, where you attend a pathology centre and a nurse takes blood from a vein in your arm. A sterile needle is inserted in your arm and blood is withdrawn into a vial. The procedure only takes a few minutes. It may take a couple of days for your results to reach your doctor.

**Meaning of results:** In people with acromegaly, the level of IGF-1 is much higher than those found in normal healthy people. The exact numbers for what is considered ‘normal’ depends on the testing laboratory, so check your result page to see what your result is in comparison with the laboratory’s normal range.

The average level of GH is higher in acromegaly. Because GH levels vary throughout the day, a single measurement may not be an accurate test for acromegaly (healthy people can have high levels at some points of the day too). However, the level of IGF-1 levels is stable throughout the day, so it is a more reliable reflection of acromegaly than increased GH levels for diagnostic purposes.

These tests will need to be repeated over time to check your body’s response to treatment.

**Oral glucose tolerance test**

**Purpose:** As mentioned above, GH levels fluctuate throughout the day, so a single high level does not necessarily mean something is wrong. The oral glucose tolerance test is a way of checking whether your GH levels are truly abnormal. This test is usually done when there is some uncertainty as to whether the IGF-I level is borderline abnormal.

**Procedure:** This may be done at a pathology centre or at a hospital outpatient facility. You must fast for 12 hours before the test. You cannot eat, drink anything other than water, smoke or chew gum until the test is over. Don’t do any strenuous exercise the day before the test, or on the day itself. Take a book (or something to occupy yourself with) along to the centre as you will be sitting around for several hours and it will help to have something to do.
Before the test, a butterfly needle will be inserted into your hand to allow the nurse to take several blood samples over the next 3 hours. A baseline blood sample is taken and you may be asked to give a urine specimen. After this, you are given a glass of sweet liquid to drink – this is the glucose. Blood samples will be taken at regular intervals after the drink; these may be taken at 1, 2 and 3 hours, but this can vary from centre to centre. The blood samples are tested for GH and glucose levels.

The test is usually not a problem for most people; however, there is a small risk that you may experience nausea, stomach ache or headache. After the final blood sample is taken the butterfly needle is removed and you can eat, drink and resume your normal activities.

*This one was not a big deal. Just a case of drinking the mixture then reading magazines while testing occurs!*

**Meaning of results:** After drinking the glucose solution, GH levels in healthy people will drop to a very low level, but in people with acromegaly this decrease does not happen.

Other conditions that can cause lack of suppression of GH during the oral glucose tolerance test include diabetes mellitus, liver or kidney disease, adolescence and anorexia nervosa.

**Magnetic resonance imaging (MRI)**

**Purpose:** To scan the brain to check the pituitary gland for a tumour. Knowing the size and location of a tumour is essential prior to any surgical intervention.

**Procedure:** MRI is an advanced scanning method that uses a powerful magnet and radio waves to produce a detailed image of a particular body part – in this case, the brain and pituitary gland. The images are produced without use of x-rays, and the procedure is safe and painless. It takes approximately 15 to 60 minutes to take a full picture of your brain. During the procedure, your whole body goes into the MRI machine, which some find claustrophobic. The machine also makes a lot of noise; music headphones or ear plugs are often available to help you manage this.

You will attend a scanning centre or a hospital for this procedure. Due to the strong magnetic fields produced by the machine, it is very dangerous to have anything metal in the room. For this reason you must change into a
robe to make sure there are no metal buttons or zips to cause problems. You will be asked if you have a pacemaker or any metal implants (such as a hip replacement), as if you have these you cannot have an MRI. You need to take off all jewellery and take out any piercings. Take this seriously, as the magnetic fields involved are very strong.

One time a doctor came in to give me an injection of contrast dye and we heard a loud bang. He had walked into the room with his pen in his coat pocket and when he approached the MRI machine the magnetic field flung the pen from his coat pocket to hit the far wall at great speed.

The staff will put a cannula in your arm so they can inject a contrast solution later during the scan. When you get into the room, you lie down on the table and the staff give you earplugs and a panic button to hold so that if you feel you need to stop the test, you can tell them immediately. Your head is placed in a headrest to limit your movement. When the table retracts into the machine you may need to squeeze your arms together a little in order to fit into the machine comfortably.

Members of staff talk to you through a speaker at times throughout the test to tell you how long each scan takes and check if you are okay. They may also position a mirror to reflect images of the staff in the booth. This enables you to see them if you look up, which can be comforting. The machine is very noisy, so the earplugs and/or music can help to dull the noise. The table may shift a little between scans to position you correctly for the next scan.

After the initial scans are completed, you are moved out of the tunnel a little and a contrast dye is injected (usually into a cannula placed in the back of your hand), then a second set of scans are made. You may feel a cold sensation travelling up your arm as the dye is injected. The dye (usually gadolinium) helps to outline the tumour and differentiate it from normal pituitary tissue.

Some people are worried about moving during a scan. You will need to keep as still as possible, but small movements like blinking or swallowing should be okay. Make sure you ask the technicians about any specific concerns you have before the scan – remember, no question is a dumb question, the technician is there to make this process as easy for you as possible.

After the procedure is over, you should sit up slowly and take your time getting up to prevent dizziness. Staff will remove the cannula used to inject the contrast dye, and bandage the area.
Meaning of results: If you have a pituitary tumour, the MRI should show where it is and how big it is. This information helps with planning your treatment. However, in some cases MRIs give ‘false negative’ results – that is, a small tumour is present, but does not show up on the scans.

Coping with an MRI – top tips from APF members

Some people find having an MRI of the head is a scary experience. Patients who have been through it offer these tips for coping:

• **Know what you are there for. Understand that this is part of finding out information that is going to help with your diagnosis.** Arrive in plenty of time. Make sure you go to the toilet beforehand as the whole scanning procedure may last an hour or so.

• **If you are claustrophobic in any way, it is best to let people know before, not during.** [It is preferable to do this when you make the appointment, so that staff can discuss options to assist you]

• **I found it best to close the eyes and pretend you are trying to go to sleep in your own bed – the thumping after a while becomes rhythmic. The music is drowned out but it is good to have it in the background.** You are given a button, which is on a long lead, to push if you get into trouble, that is comforting.

• **Take the offer of music if it is given. It does help.**

• **Wearing an eye mask alleviated my knowing how close the top of the machine was to my face.** I have a plan in my head before I go in the machine to plan my next holiday away, right from the initial planning, to the packing of the suitcase and the journey itself! It keeps my mind occupied.

• **Remember, it doesn’t hurt at all.**

• **I kept reminding myself that it would all be over soon and to relax. Nothing lasts forever.**

• **Breathe deeply and relax!** I used it as an enforced break to actually try and have a rest; it was almost like meditating.

• **Just know that worrying about it doesn’t help.** You will be fine, and you will keep still and calm, even though you think that you won't.
For some patients, a few other tests may be needed.

**Visual field test**

**Purpose:** To check for blind spots or loss of peripheral vision caused by a pituitary tumour pressing on your optic nerve.

**Procedure:** An optometrist or ophthalmologist can perform this test. You sit down and your chin is placed in a rest so that your head keeps still during the procedure. One eye is covered so that only one eye is tested at a time. In front of you there is a convex dish (like a miniature satellite dish) with a light in the centre; you will be asked to focus on this central light. You are given a button, which you press each time you see a light flash anywhere in the dish, no matter how bright or dim it is. Lights will randomly flash around the dish, some in front of you and some in your peripheral vision to the sides. The machine charts your responses, taking about 10 minutes per eye. At the end you may be given a printout of your visual fields – if this is not offered, ask for a copy for your own records. This is usually a straightforward test for patients and is not difficult or stressful.

![Figure 3. Sample results of visual field testing.](image-url)
In Figure 2 the areas shaded darkest are where the patient was unable to see flashing lights. The left eye is affected more than the right eye. A normal result would be no areas of dark shading apart from the “blind spot”.

**Meaning of results:** The resultant plot on graph paper gives your specialist an accurate picture of any pressure on the optic nerves that connect the eyeball to the brain. You should be aware that results can have an impact on your life – for example, if you are found to have severely affected peripheral vision, you may not be allowed to drive any more. If treatment corrects the problem, you may be able to resume driving after all the necessary medical and road authority checks have been completed.

**Computed tomography (CT) scans**

**Purpose:** To locate a GH-secreting tumour. If you have metal implants in your body (such as a pacemaker, or hip or knee replacement) and cannot have an MRI, a CT scan of the head will be done instead to locate your tumour.

**Procedure:** You attend a hospital radiology department or an imaging centre, change into a gown and lie down on the CT scanner bed. You lie still while the bed moves through a doughnut-shaped scanner, which takes a series of detailed x-rays from different angles. A dye may be injected into a vein or swallowed to improve the outline of the tissues.

> I had a CT before an MRI and in comparison I found it much less stressful.... Most of my body was outside the scanner so I didn’t feel claustrophobic, and the scans were quite short so it was easy to stay still.

> A CT scan is rather straightforward and no more intrusive than an x-ray. Not at all intimidating.

**Meaning of results:** The radiologist will examine the scans and report if any tumours are visible. If they are, information on their location and size will be determined, which is essential for treatment planning.

**Colonoscopy**

**Purpose:** Patients with acromegaly have an increased risk of developing polyps in the colon. A polyp is a benign growth which may have the potential to become cancerous. A colonoscopy allows your doctor to look for polyps, tumours, ulcers and areas of inflammation or bleeding in your colon. During a colonoscopy, tissue samples can be taken (biopsy) and polyps can be removed. If you are over the age of 50 and are diagnosed with acromegaly, you are likely to have a baseline colonoscopy.
**Procedure:** Before this test, you will need to take special solutions to clean out your colon (called ‘colon prep’). This can take 1 to 2 days, depending on which type of prep your doctor recommends. During the prep time you will need to stay home so that you can use the bathroom frequently. The prep causes diarrhoea in order to clean out your colon ready for the test. If your bowel is not prepared properly it can make the test more difficult, or may even mean the test cannot be performed and you have to come back another time.

Colonoscopies are carried out in a hospital or a day facility. When you arrive, you will change into a gown and may be given a small enema. The doctors at the centre will explain your particular procedure to you, but the following description aims to gives you an idea of what to expect.

Prior to your colonoscopy, you will be given intravenous sedation or a light anaesthetic to keep you comfortable and help you to relax. If you are sedated you may sleep during the procedure (which usually takes around 30 to 60 minutes to complete), although you may be aware of being moved, having your colon inflated with air (to allow the doctor to get a better view) and feel some temporary abdominal discomfort.

During the procedure, the doctor inserts a long, thin, flexible tube with a camera on the end (colonoscope) into your anus and moves it through the rectum and into the bowel. The doctor looks for any abnormal areas such as polyps or tumours. If they find a polyp, it can be removed during the colonoscopy (a simple process called a polypectomy); if they find a tumour, they can take a biopsy to determine if it is benign or cancerous.

After the procedure you will rest for an hour or so until the sedative wears off. During this time you may pass a lot of air out of your anus. This is the air that was used to inflate your colon. Someone needs to be available to collect you and drive you home after the procedure.

*I think the hardest part is the preparation and drinking what seems to be litres and litres of liquid and goo... The actual procedure is quite easy – I don’t seem to be able to remember anything about it, but some people tell me that they talk to the doctor while having the procedure! Afterwards, you just recover from the light anaesthetic and get the digestive system going again. I always experience gas pain in the abdomen and under the front of the shoulders.*

*Stick to the procedure of the drinking of the liquids. Otherwise, if you are not completely cleaned out a repeat might have to be done. Start eating light food for a day or so until everything is back to normal.*
A variation on this procedure is a computed tomography (CT) colonography (also known as a virtual colonoscopy). This is like a CT scan – a non-invasive test whereby your entire colon is scanned using x-rays and a computer compiles the results into a three-dimensional image for the radiographer to review. As the technology and accuracy of detection improve, this procedure may be increasingly used. However, this technology may not always be available, and with this approach polyps cannot be removed at the same time as the colonoscopy.

**Meaning of results:** If any polyps are found and removed, you will need to undergo regular follow-up colonoscopies every three years or so to check for new polyps. If a tumour is found in your bowel, you will be referred for further specialist management. If no problems are found, you will probably have follow-up colonoscopies approximately every five years.

**Sleep studies**

**Purpose:** To determine if you have sleep apnoea, which is a condition in which the throat closes during sleep, cutting off breathing and causing oxygen levels in the blood to fall. This causes the sleeper to wake frequently, leading to a disturbed sleep pattern and chronic fatigue. Too much GH can result in a larger tongue and soft tissue swelling in the throat, which becomes floppier during certain phases of sleep, resulting in apnoea. You will only have a sleep study if you have experienced symptoms of sleep apnoea.

**Procedure:** You will be booked into a special sleep laboratory facility for an overnight stay. The staff will give you instructions as to what you need to do to prepare for the test, and what to bring with you. You can eat and drink normally, but may be told to avoid caffeinated drinks on the day of the study. When you arrive, you will be given further instructions and be shown your bedroom. You will then be ‘wired up’ for the night. This involves many small sensors (like miniature heart monitoring buttons) being attached to your scalp, face, chest and legs. Sometimes the skin surface is rubbed with a light sandpaper-type material to give a good contact point – this can be a little uncomfortable. After the wires are all attached, you go to bed and fall asleep. This can be a little tricky at first, as it feels strange to be connected to all the wires, but don’t be anxious. It is totally normal to take longer than usual to fall asleep, but almost everyone eventually does so. Your sleep pattern is monitored and the results are recorded for your sleep specialist to review. If you need to use the bathroom during the night the sleep technician can assist you by unplugging some of the wires and grouping them together to make a bathroom visit possible. Likewise, in the morning the sleep technician will
help you remove all the wires. You may need to wash your hair a few times to remove all the electrode adhesive. You will be given a follow-up appointment with the sleep specialist to discuss your results and any further management if you are found to have sleep apnoea.

**Meaning of results:** During the study many aspects of your sleep may be monitored, including brain activity, muscle activity, airflow at your nose or mouth, and body oxygen level. The sleep specialist will review all these things to determine if you stopped breathing while you were sleeping, and how often this occurred. If you have sleep apnoea, interventions such as using a continuous positive airway pressure machine will be discussed with you.

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**Sleep studies – top tips from APF members**

- **Do not drink any coffee on the day of your study.**
- **Take your own pillow from home.**
- **Make sure you are tired and get as comfortable as you can before the study commences.**
- **Make sure you go to the loo before going to bed.**
- **If possible, lie on your stomach so that your head can be easily turned and pressure is not put on all the contact points.**
- **Don't expect a peaceful night's sleep. You only need a few hours to get good results – a full night's sleep is not necessary.**

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**Bone mineral density (BMD)**

**Purpose:** Determines if you have osteoporosis (thinning of the bones) by measuring how much calcium and other minerals are present in your bones (usually your lower spine and hip). This information is used to predict your risk of bone fractures in the future. A BMD measurement is not usually needed in acromegaly. It may be done if the tumour has damaged the pituitary gland, leading to low levels of sex hormones (e.g. testosterone in men or oestrogen in a woman of reproductive years).

**Procedure:** BMD testing is carried out in a hospital radiology department or imaging centre and is a painless procedure. Usually you don’t need to get changed, but you should remove any jewellery. You lie still on a cushioned
table and a scanner passes over your body, taking x-rays of your lower spine and hip. This is known as a central DEXA scan (Dual-Energy X-ray Absorptiometry).

BMD can also be tested using small machines sometimes found in pharmacies or shopping centres; however, these are less reliable than a central DEXA scan.

**Meaning of results:** Results are usually reported as a T score and a Z score. The T score compares your result with that of healthy young women, while a Z scores compares your result with that of other people the same age, sex and race as you. Negative scores indicate your bones are thinner than the standard you are being compared to. Higher negative numbers indicate higher fracture risk.

### BMD – top tips from APF members

- **It is an easy test and does not take long...** You do not have to get changed into special gowns. You are not fully surrounded by the machine and the machine does not touch you. You need to lie as still as possible. Once it is over you can go straight away. No contrast injections needed.

- **Make sure that the machine is suitable for your weight.** I went to have my first one and was told that the machine was not powerful enough to scan through my weight, so I had to go to another town where they had a more powerful machine. Ask when you make the booking to avoid extra hassles.

### WHAT HAPPENS NEXT?

Treatment for acromegaly aims to lower your GH to a level to within the normal range usually found in healthy people, relieve any pressure on the optic nerve, improve the symptoms of acromegaly and prevent complications from the disease, and preserve normal pituitary function as much as possible.

Treatment will be individualised for your particular case, but will often include one or more of the following approaches. More information about treatment can be found in the book ‘Understanding your pituitary problems’, which is available to all APF members on joining.
• **Surgery to remove the pituitary adenoma.** This is usually performed through the nasal passages to minimise damage and scarring. It is important that this is carried out by an experienced neurosurgeon with a special interest in pituitary surgery. Surgery does not always remove the entire tumour as sometimes this is not possible. Around 80% of patients with small tumours (<10 mm) can be cured by surgery. If the tumour is large or invasive, the cure rate drops to 20% to 50%.

If surgery is successful, soft tissue swelling will improve within a few days and GH levels will return to normal within hours. However, bone changes experienced by acromegaly patients are often not reversible. There is always some risk that the tumour may grow back, so you will continue to be monitored by your endocrinologist on an ongoing basis.

![Figure 4. After treatment, the soft tissue swelling caused by acromegaly usually goes away, but bone changes are often not reversible.](image)

• **Medication.** This may be used before surgery, or instead of surgery. Injectable drugs called somatostatin analogues are the main medication used. These help to improve symptoms such as headache, sweating and fatigue, and may reduce tumour size.

• **Radiotherapy.** This may be recommended if surgery was unable to remove your entire tumour. While radiotherapy does not make the tumour disappear, it can help to stop further growth and may result in more normal GH levels; however, this generally takes months to years to achieve. A common side effect of radiotherapy is that it can cause new deficiencies in other hormones secreted by the pituitary gland. For this reason doctors are selective about who needs radiotherapy.
MORE INFORMATION

There are some wonderful sources of information available on acromegaly. The following list is a starting point.

- **Australian Pituitary Foundation.** The APF has information on acromegaly available on its website (www.pituitary.asn.au). The APF also organises educational sessions across Australia and can put you in touch with other Australians with your condition. See below for information about how to join.

- **Pituitary associations worldwide.** Other international pituitary associations have produced excellent web pages and booklets on this disease.
  * The Pituitary Foundation (www.pituitary.org.uk). Follow links to Pituitary Conditions, then ‘acromegaly’.

- **Web resources.** Useful websites include www.acromegalyinfo.com and www.acromegaly.org. The site www.healthinsite.gov.au contains links to reliable sources of information on many diseases. Use the search function to look for links on acromegaly.

- **Books on acromegaly.** Books such as “The official patient’s sourcebook on acromegaly” (James N. Parker and Philip M. Parker, eds) may be useful sources of information. Search large online bookstores or ask your local bookstore to locate other available titles that might interest you.

SUPPORT AND NETWORKING

Support for yourself and your loved ones will be vital during your journey with acromegaly.

Please consider joining the APF if you haven’t already done so. It has branches in every state, which organise regular social gatherings where you can meet others dealing with the same issues confronting you. The APF also has an exclusive patient support register and an online members-only forum allowing you to ask questions of others and share experiences. Furthermore, the APF has a collection of stories from people who have experienced diagnosis and treatment for acromegaly. See www.pituitary.asn.au or contact the APF for details.
JOIN THE APF

You can join the APF by filling in the membership form, available on its website www.pituitary.asn.au (click on the Membership section).

The APF’s objectives are to:

- provide a forum for the exchange of information and ideas and for the discussion of problems related to pituitary disorders
- promote public awareness of pituitary disorders and the need for government support
- act as a resource group providing support and disseminating information
- encourage scientific research for the prevention, alleviation, care, treatment and cure of pituitary disorders.

For further information, contact:

Australian Pituitary Foundation Ltd
PO Box 105 Kellyville NSW 2155
Ph: 1300 331 807
Web: www.pituitary.asn.au
Email: support@pituitary.asn.au

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Paula Donaldson (project management consultant)
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Contributing members of the Australian Pituitary Foundation

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The APF’s mission is to provide support to those who have experienced pituitary gland conditions. We promote awareness and disseminate information helpful to the medical community, public, pituitary patients and their families.

**NATIONAL CONTACT:**
support@pituitary.asn.au
Ph: 1300 331 807

**STATE CONTACTS:**
qld@pituitary.asn.au
nsw@pituitary.asn.au
vic@pituitary.asn.au
sa@pituitary.asn.au
wa@pituitary.asn.au
tas@pituitary.asn.au