OUR BODY’S IMMUNE SYSTEM IS DESIGNED TO PROTECT US AGAINST INVADING GERMS AND HELP KEEP US WELL. A HEALTHY IMMUNE SYSTEM IS MADE UP OF VARIOUS PARTS. HAVING PID MEANS THE IMMUNE SYSTEM DOESN’T QUITE WORK AS WELL AS IT SHOULD BECAUSE IT DOESN’T HAVE ALL THE PARTS OR SOME OF THE PARTS DON’T WORK PROPERLY.
What is Primary Immunodeficiency (PID)?

Your doctor will have told you that you or your child has a condition called Primary Immunodeficiency (PID), also known as Primary Antibody Deficiency (PAD).

PID is a genetic condition where your immune system is missing some of the key parts that make it work properly. This means that it is difficult for your body to fight infection and you are probably ill very often. People with PID tend to catch one infection after another and some of them – such as ear, sinus and chest infections – don’t seem to clear up with treatment as well as expected.

Besides being painful, frustrating and sometimes frightening, having constant infections can damage your body’s tissues and, in more severe cases, can even be life threatening.

Some clinicians estimate that there may be as many as 100 different forms of PID, although not all of them are severe. The few which are severe become apparent almost immediately after birth, and others may be diagnosed within the first year of life. Other, milder forms may not show up until people reach their teenage years, or during early adulthood.

At the moment there is no cure for PID, but it can be treated so that infections can be avoided or minimised. Many people living with PID are able to lead very normal lives and get on with ordinary activities, just like everybody else.

How our immune system works

Our body’s immune system is designed to protect us against invading germs and help keep us well.

If our immune system is healthy it sends out different types of protectors – called antibodies – which stop germs as soon as they get into our bodies so they don’t make us ill. This team is made up of protectors called B cells, T cells, immunoglobulins, phagocytes and complement. They have different jobs but all work together to help protect our bodies from infection.

B cells are some of our most important protectors. They are special white blood cells which are made in our bone marrow and which, themselves, make immunoglobulins.

T cells mature in the thymus – a small organ behind the breastbone – and move in our blood to reach any part of our body where they are needed. There are killer T cells, helper T cells and suppressor T cells. Killer T cells are always on the look out for cells which have become ill, in order to destroy them. Helper T cells keep an eye on the work of the killer T cells and call in more of them if necessary. They can also call on the B cells to make more immunoglobulins. Once the killer T cells have done their job, the suppressor T cells tell the B cells to stop making immunoglobulins.
Immunoglobulins are antibodies which help to fight bacteria and viruses.

**Immunoglobulin A (or IgA)** antibodies protect the parts of our bodies where our skin can’t form a barrier – such as in our nose and eyes, and in our tears and saliva. They also protect our intestines.

**Immunoglobulin M (or IgM)** antibodies are the next protectors that are formed against the germs if they manage to get into our bodies. IgM is the first immunoglobulin to be formed in the blood and in the lymph system to reach the germs, slow them down and mark the germs for destruction by other immune system cells.

**Immunoglobulin G (or IgG)** can recognise the same type of germ again and again and lies in wait to fight it off so we don’t get ill. This is why, once we have had certain illnesses such as chickenpox or measles, we don’t get them again. Our IgG antibodies recognise them after the first time and are able to stop them immediately if they try to attack us again.

**Phagocytes** are special white blood cells which eat up germs and call on other phagocytes to help if there are lots of invaders to stop.

**Complement** is made of many parts and works as a communicator between IgG antibodies and phagocytes.

The immune system is made up of the following components:-

- **Tonsils and adenoids** site of collection of lymphocytes
- **Thymus** involved in lymphocyte (white blood cell) development
- **Lymph nodes** one of the sites of antibody formation
- **Liver** site of collection of immune system cells
- **Peyer’s patches** typically contain B cells, plasma cells and germinal centres
- **Spleen** contains large numbers of phagocytes. It is also responsible for producing proteins which help the immune system
- **Bone marrow** where cells of the immune system originate
- **Blood** carries cells and proteins of the immune system around the body
Signs and symptoms

The most usual problem in PID is an increased susceptibility to infections which may be common, severe, lasting or hard to resolve.

Although healthy youngsters may get frequent coughs, colds and earaches (around 2-3 ear infections a year), children with PID can get one infection after another, or two to three different infections at one time. Weakened by infection they may fall behind in growth and development. Despite taking antibiotics, the infections of PID often drag on or keep coming back, becoming chronic.

Common problems include:

• Chronic sinusitis (infection and inflammation of air passages in the bones of the cheeks and forehead)
• Chronic bronchitis (infection and inflammation of the airways leading to the lungs)
• Pneumonia (infection in the deep parts of the lungs)

Besides all the infections, some immunodeficiency diseases produce other immune system problems, including autoimmune disorders where the immune system gets out of control and mistakenly attacks the body’s own tissues. This causes, for example, anaemia (a lack of red blood cells), or diabetes (a disorder caused by insufficient amounts of insulin).

Organs can be targeted too, producing diseases such as rheumatoid arthritis, which affects the joints, nerves, lungs and skin, or systemic lupus erythematosus, which affects skin, muscles, joints, kidneys and other organs, causing rashes, joint pain, fatigue and fever.

Diagnosis

Occasionally the signs and symptoms of PID are so characteristic that the diagnosis is obvious. However, in most cases it is not clear if a long succession of illnesses is simply ‘ordinary’ infections or the result of an immunodeficiency.

THE 10 WARNING SIGNS FOR DIAGNOSIS OF PID

1. Eight or more new ear infections within a year
2. Two or more serious sinus infections within a year
3. Two or more months on antibiotics with little or no effect
4. Two or more pneumonias within a year
5. Failure of an infant to gain weight or grow normally
6. Recurrent deep skin or organ abscesses
7. Persistent thrush in mouth or on skin, after age one
8. Need for intravenous antibiotics to clear infections
9. Two or more deep-seated infections such as meningitis, osteomyelitis, cellulitis or sepsis
10. A family history of primary immune deficiency
Experts estimate that about half of the children who see a doctor for frequent infections are normal; 30% may have allergies and 10% have other serious disorders. Just 10% turn out to have an immunodeficiency.1

If PID is suspected, the doctor will want a full patient history with a list of past infections, details about how long they lasted and how frequent they were, as well as how well they responded to antibiotic treatment. The doctor will also explore the family history to see if any relatives have been diagnosed with PID or shown any unusual susceptibility to infections.

A medical examination will be required and the doctor will assess growth rate and whether the patient is the correct weight for their height. Changes in the lungs will also be looked for, as well as the presence of rashes or sores and enlarged liver and swollen joints.

All this will be supported by simple blood tests, which include a full blood count and a check of the total numbers and functioning of red and white blood cells, antibodies and T cells. In fact, it takes just two, routine tests – total blood counts and quantitative immunoglobulin count – to detect most, but not all, immunodeficiencies.

These test results help doctors determine the type of PID and recommend suitable treatment, and they may also arrange a consultation with a specialist with experience in diagnosing and treating PID diseases, so that more precise immunological tests can be carried out.

Reference:
1. www.nichd.nih.gov/publications/pubs/primary_immuno.cfm#SignsandSymptoms

Treatment for PID

Treating PID involves not only curing infections but also correcting the underlying immunodeficiency. Any associated conditions, such as autoimmune disorders, will also need special attention.

Treatment starts with clearing up any infections you might have right now. Then it moves on to infusing immunoglobulins on a regular basis to replace and maintain your antibody levels in the long term in order to keep you as healthy as possible.

Antibiotics

To start with, you will probably need some antibiotics to clear up any current infections that you might have. Some antibiotics have a broad-spectrum of activity to combat a wide range of germs. Others attack specific germs if they can be identified.
If an infection fails to respond to standard antibiotics, you may need to spend a short time in hospital to be treated with antibiotics and other medicines given intravenously.

**Immunoglobulin replacement therapy**

After that, the level of your antibodies can then be corrected by replacing them with infusions of antibodies called immunoglobulins, which are antibodies prepared from blood plasma collected from healthy donors.

This is called immunoglobulin replacement therapy and will need to be administered on a regular basis. It will bring your antibody levels to normal and you will feel much better than you have done.

Intravenous Immunoglobulin (IVIG)

IVIG is given intravenously, which means through a needle directly into a vein. Most primary immunodeficiency patients receive an IVIG infusion every 3 to 4 weeks.

Each infusion usually takes about 2-4 hours. The amount of IVIG in each infusion is based on body weight, medical condition and past experience with IVIG.

Most people have their first IVIG treatments in a hospital setting so that possible side effects can be monitored and the correct dosing and infusion rate can be determined. After the first few infusions, your doctor may offer you the option of receiving treatment in your home or other location. Although you may receive IVIG treatments in different types of settings, IVIG is often administered by a healthcare professional, usually a nurse, but some patients are trained to self-infuse IVIG at home.

“Since I started my treatment, nine months ago, I have noticed a considerable improvement in my general health”

J Turner, Patient

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**Immunoglobulin treatment options**

You can receive your immunoglobulins by one of two routes:

> **Intravenous (IV):** an injection directly into your vein (often referred to as IVIG or intravenous immunoglobulin G)

> **Subcutaneous (SC):** an injection under your skin (often referred to as SCIG or subcutaneous immunoglobulin G)

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J Turner, Patient
Subcutaneous Immunoglobulin (SCIG)

A subcutaneous infusion (sub = below, cutaneous = skin) is when the needle goes into the fat layer between the skin and the muscle to deliver a certain amount of medicine.

SCIG infusions must be given into particular areas of the body. These are:

> Abdomen, below the navel (also known as the belly button) or waistline
> Top of the thighs
> Upper arm or side of upper leg/hip

SCIG treatment is a convenient and flexible way of giving your medication at home.

How will treatment fit in with my lifestyle?

PID can be treated either in a hospital, or at home. Some patients and their families prefer to receive their treatment at home, as it may be more convenient and will avoid travelling to and from a hospital, having to take time off work or school.

Sometimes, treating PID can be time-consuming when you and your family are busy, but PID therapy needn’t affect your quality of life.

Do I need training?

Depending upon your treatment, a Consultant Immunologist must be sure that you are able to cope with self-administration. You, a friend or a relative will receive full training, usually at the hospital. This would be carried out by a Specialist Nurse who would demonstrate the skills involved.

Many patients prefer to treat themselves at home, as it allows you to:

> Make fewer hospital visits (after appropriate training with your doctor or nurse)
> Plan your infusions around your life, work or school time
> Be independent and in control
> Travel on business or go on holiday, knowing you can self-infuse while you are away

“Home treatment gives you the opportunity to live like a ‘normal’ human being. If anyone feels disabled by the antibody deficiency, home treatment reduces this feeling to a minimum”

Patient aged 45
Other things which can help

As well as regular immunoglobulin replacement therapy, there are other things you can do to make sure you feel as well as possible.

It is important to lead a healthy lifestyle with a balanced diet, get plenty of exercise and try to avoid contact with people who have coughs, colds and other infections, to minimise your exposure to unnecessary germs.

Nutrition

While good dietary habits are important for everyone, they are extremely important for someone with PID. A healthy, balanced diet provides nutrients essential for normal growth and development, body repair and maintenance. Eating a variety of foods, maintaining an ideal body weight, consuming enough starch and fibre and limiting the intake of fat, cholesterol, sugar, salt and alcohol are all encouraged.

Hygiene

General principles of good hygiene are essential for people with PID and their families.

Hand washing before meals, after outings and after using the toilet should become routine. To be truly effective, hands must be washed vigorously with soap and water for at least 15 seconds (try timing this sometime). When hands are not obviously dirty, alcohol-based hand gels are an effective alternative. These have the advantage of being able to neutralise germs, are portable and can be applied rapidly. The regular use of hand gels has been shown to reduce the occurrence of colds in healthy people, and there is no reason to believe that this would not apply to PID patients as well.

Individually wrapped and disposable hand wipes are excellent for school lunches and for outings. For younger children, periodic washing of toys may be beneficial. Cuts and scrapes should be cleansed, and a first aid cream applied.

Some individuals with a primary immunodeficiency are prone to tooth decay, so regular visits to the dentist and proper brushing and flossing are to be encouraged.

Anyone with PID should also avoid exposure to other people who are ill with an infection.

Sleep

Sleep is an essential requirement for good health. An appropriate amount of sleep each night that is consistent from day to day is highly recommended.

Although there have not been specific studies of sleep habits in people with PID, erratic sleep has been shown to have negative effects on the immune system in other types of patients. For this reason, viewing sleep as a part of your treatment programme is very important.

Some helpful guidelines include:

1) Try to go to sleep and wake up at roughly the same time each day
2) Try to avoid late nights
3) Avoid consumption of caffeine (such as caffeinated coffee or tea) in the evening
4) Try to minimise potential disturbances during the night
5) Avoid long naps during the day that could interfere with your regular sleep schedule

“I have never felt better in my life. I’ve hardly had any chest infections this year”

James H, Patient
Exercise
Taking regular exercise is a great way to promote physical fitness and provide an outlet for energy and stress. Swimming, biking, running and walking promote lung function, muscle development, strength and endurance. In general, people who are physically fit and participate in regular exercise get sick less than people who do not exercise. In some studies, people who exercise regularly were even found to have stronger immune systems. Although this has not been directly tested in people with PID, exercise can be fun, rewarding and a useful part of your routine.

Stress
Some studies show that stress negatively affects the immune system, and there are also scientific studies that show reducing stress can improve immune function. Since some of these measures can be low-risk, they may be worth considering. These include massage therapy, biofeedback, meditation and hobbies. However, regular exercise and sleep are perhaps the most important stress-reducing measures and should be taken seriously.

Getting on with life
Once you are having treatment for PID you will feel much better and no one should be able to tell that there is anything different about you.

However, you will probably still come up against some challenges now and again, and you will have to work out how best to deal with them so that you can get on with life. For example, because you need regular immunoglobulin replacement therapy you will probably have to miss some time from school, college or work and so you will have to tell your teachers or your manager why you need to be away.

It is up to you whether you want to tell your friends what is happening. It might help them to support you better if you do, so that they understand why you are not always there or why you can’t take part in certain activities.

Once they begin treatment, many people with PID lead very normal lives and get on with ordinary activities, just like everybody else.
In general, SCIG has to be infused more frequently than IVIG. The dosage of immunoglobulin and how often it must be given will depend on why you are receiving the immunoglobulin and will be decided by your doctor.

What is subcutaneous infusion?

A subcutaneous infusion (sub=below, cutaneous=skin) is when the needle goes into the fat layer between the skin and the muscle to deliver a certain amount of medicine. SCIG infusions must be given into a certain area of the body. These are:

- lower abdomen, below the navel (also known as the belly button) or waistline.
- top of the thighs.
- upper arm or side of upper leg/hip.

SCIG treatment is a convenient and flexible way of giving your medication at home.

What is Subgam?

Subgam is an immunoglobulin G solution used to treat primary immunodeficiency in adults and children. Subgam is given by subcutaneous infusion connected to a portable syringe driver, a small device that delivers the treatment gently and evenly over about 1-2 hours or so.

Who can use Subgam?

Subgam treatment offers the opportunity to infuse yourself at home. It is particularly suitable for:

- people who have difficulty finding a vein or dislike needles in their veins.
- people who do not respond well to IVIG therapy.
- people who want to be independent or have demanding weekly commitments, therefore wish to do the infusion themselves at home.

Primary Immunodeficiency

Primary Immunodeficiency disorder (PID) is a genetic condition where your immune system is missing some of the key parts that make it work properly. This means that it is difficult for your body to fight infection. A person with PID tends to catch one infection after another, such as ear, sinus and chest infections. Children and adults who are diagnosed with PID often need regular immunoglobulin therapy.

What types of immunoglobulin therapy are available?

At the moment there is no cure for PID, but it can be treated so that infections can be minimised. Many people living with PID are able to lead very normal lives and get on with ordinary activities, just like everybody else. Immunoglobulins (IG) are used to treat PID by replacing your antibodies, the part of your immune system that is missing or weakened. The job of the antibodies is to defend your body from infection by bacteria or viruses. Solutions of immunoglobulins come in glass bottles, and are given through a small needle using a pump (this is known as infusion). There is a choice of two treatments:

- Intravenous (IV): A slow infusion directly into your vein (often referred to as IVIG or intravenous immunoglobulin G).
- Subcutaneous (SC): An infusion under your skin (often referred to as SCIG or subcutaneous immunoglobulin G).
How does Subgam fit with your lifestyle?

Subgam allows you to:

> give yourself treatment at home (with previous and appropriate training from your doctor or nurse).
> plan your infusions around commitments, work or school time.
> be independent and in control.
> travel on business or go on holiday, as it will not impede your travel plans while you are away.

How is Subgam given?

Subgam is usually given once a week with the use of small, portable infusion pumps.

Subgam is infused subcutaneously at a steady rate over 1-2 hours or so. Two infusions can be given simultaneously through fine ‘butterfly’ needles to reduce infusion time.

The usual starting dose is 200 to 500 mg per kg of body weight (approximately 1.25 mL to 3.13 mL per kg body weight), but the precise amount will vary depending on your clinical symptoms. Your doctor will tell you the best dose for you.

The following instructions are intended only as a guide. It is important that you follow the detailed instructions provided by your doctor or specialist nurse and also read the Patient Information Leaflet included with each vial of Subgam to know more in detail.

How to administer Subgam

Procedure prior to Subgam infusion

> Ensure Subgam infusion is brought to room temperature before use.
> Wash your hands with warm, soapy water and dry with a clean towel.
> Place the equipment you will need nearby: Subgam vials, syringe, infusion pump(s), ‘butterfly’ or transfer needle(s), infusion administration tubing, antiseptic wipes, gauze swab, micropore tape or plaster, sharps bin, record card or diary.
> Make sure that the infusion area is clean and well lit. Clean your skin with a disinfectant wipe and allow to dry.
> If you use an anaesthetic cream, gel or spray (most commonly used by children), apply it to the cleansed area and cover with a film dressing. Wait for the required time for the anaesthetic to take maximum effect.
> Check carefully the liquid in each vial of Subgam, the dose, expiry date and batch number (these can be found on the label). Do not use solutions that are cloudy or contain particles, have changed colour or have expired or if the protective cap is missing.
Giving Subgam infusion

> Transfer Subgam to the syringe for infusion:
  Take the protective cap off the vial.
  Attach the needle to the syringe.
  Draw back the plunger to fill the syringe with air.
  Taking care not to touch the needle, insert it into the centre of the rubber stopper of the vial and ensure the needle does not make contact with the glass vial.
  Press the syringe plunger to add air into the vial. Turn the vial upside down. Slowly pull out the plunger to fill the syringe chamber with Subgam. Gently knock the bubbles out of the syringe chamber holding the syringe pointing upwards. Pull the filled syringe and the needle out of the stopper. Cover the needle with its cap and repeat the process with the next vial(s).

> Prepare injection site:
  If you have used an anaesthetic cream, gel or spray, make sure you have left it on for the required time.
  Prior to giving the infusion, wash your hands with warm, soapy water and dry with a clean, dry towel.
  Clean the skin at each site with an antiseptic wipe. This is very important as it minimises local inflammatory reactions, such as redness.
  Ensure the site is dry before needle insertion.

> Prepare the infusion pump(s) and tubing for use (following the manufacturer’s instructions).

> Attach the ‘butterfly’ tubing to one end of the

> Remove the cap covering the ‘butterfly’ needle.

> Hold the needle with one hand and with the other hand pinch a 2-inch fold of skin between your finger and index finger.
Insert the needle at an angle not exceeding 45 degrees to the pinched-up skin (until it is completely covered by skin).

Secure the needle with a tape or transparent dressing over the injection site. This will stop the needle from coming out.

Draw back the plunger to check the needle is sited correctly and not into a blood vessel (if the needle is in a vein, then you will draw blood into the tubing when the plunger is pulled back). If you see any blood in the tubing, take the needle out of the injection site. Start the infusion at a different site with new infusion tubing and a new needle.

Place the syringe(s) on the infusion pump(s). There are several types of pumps. Check the pump settings as used in your training. Switch on the pump(s). Start the infusion(s).

When the infusion is finished, turn off the pump, remove the needle from the skin and firmly hold a gauze swab on the infusion site. Apply a plaster to the site.

Safely throw away the used syringe(s) and needle(s) in a sharps bin.

Wash and dry your hands thoroughly.

Record the treatment:
On each Subgam vial you will find a peel-off label with the product batch number and expiry date. Record the time, date and the exact dose of your infusions(s) and stick the label(s) in your treatment diary. Take this record of your treatment with you whenever you visit your doctor or nurse.

Clean up:
Throw away any Subgam that is leftover in the single-use vial, along with the used disposable supplies, in the sharps bin.

Clean and store the infusion pumps, following the manufacturer’s instructions.
Will it hurt?

➢ The needles for this type of infusion are very thin and short, so pain or discomfort is usually minimal.

➢ The use of an anaesthetic cream/gel may be an option for some patients, particularly children.

Important points

➢ Infuse Subgam when the solution is at room temperature; so remember to take sufficient Subgam out of the fridge at least 1 hour before you plan to start your infusion.

➢ Do not open the Subgam vials until you are ready to use them.

➢ Check Subgam expiry date before use.

➢ Remember to have the correct vial sizes (5 mL or 10 mL) and that you have the correct dose.

➢ Remove air bubbles from the syringe before beginning the infusion.

➢ Switch where you infuse Subgam in a regular pattern to reduce the risk of irritation at the infusion site.

➢ Never infuse into areas where the skin is tender, bruised, red or hard. Avoid infusing into scars or stretch marks.

➢ Try to relax your muscles in the infusion area; try not to tense up.

➢ Insert the needle of the ‘butterfly’ through the skin quickly.

➢ Do not change the direction/angle of the needle as it goes in or comes out.

Possible difficulties

➢ You may have some soreness, redness or swelling around the infusion site for 24 or 48 hours.

If you experience continuous pain, itching, rash or any other unusual reaction, or are just feeling unwell, you must tell your doctor/specialist nurse.

Outcome

➢ Infusions of Subgam should help maintain your blood immunoglobulin G within an acceptable range. This should reduce your risk of infection, but regular infusions are essential.
My Subgam infusion diary

To help ensure that you get the most from your Subgam treatment, BPL has developed an infusion diary specifically for you.

The diary allows you to easily keep a written record of the infusions you make. You can keep track of the date and time of each infusion, the total number of vials used, the area in which you have infused and how you feel compared to the previous week. You can also note down any effects of the infusion, any other medicines you have taken during the week, as well as any questions you may have for your doctor or nurse.

It may be useful to share the diary with your doctor or nurse from time to time, so that he/she has a better understanding of your health between visits.

If you need any further medical information about Subgam or to order a new infusion diary, please speak to your nurse or doctor. Alternatively, you can contact BPL’s medical department on:

Tel: +44 (0)20 8957 2255 or email: medinfo@bpl.co.uk

For further information, please visit: www.bpl.co.uk

> Date of infusion: [ ] [ ] (month / day / year)

> Time infusion started:

> Time infusion ended:

> Batch number:

> Enter total number of vials used: [ ] 750 mg [ ] 1500 mg

> After my last subcutaneous infusion I felt:

- Better
- No different
- Not as well

How do you feel compared with this time last week? ..........................................................
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> Effects of this infusion:

Please note down any side effects you have experienced during or after this infusion, such as headache, feeling sick, injection site irritation or any other side effects
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> Comments or questions for my doctor or nurse:

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> Other medicines taken during the last week:

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Please mark with a X the infusion site(s) you used this week.

Date of infusion: ___/___/____

Time infusion started: ___/___/____

Time infusion ended: ___/___/____

Batch number: ___

Enter total number of vials used: ___ 750 mg ___ 1500 mg

After my last subcutaneous infusion I felt:
- Better
- No different
- Not as well

How do you feel compared with this time last week?

Effects of this infusion:
Please note down any side effects you have experienced during or after this infusion, such as headache, feeling sick, injection site irritation or any other side effects.

Comments or questions for my doctor or nurse:

Other medicines taken during the last week:

My Subgam infusion diary
Please note down any side effects you have experienced during or after this infusion, such as headache, feeling sick, injection site irritation or any other side effects.

Area infused:
Please mark with a X the infusion site(s) you used this week.

Comments or questions for my doctor or nurse:

Other medicines taken during the last week:
Useful contacts

Bio Products Laboratory
Tel: 020 8957 2255
Web: www.bpl.co.uk
Email: medinfo@bpl.co.uk

International Patient Organisation for Patients with Primary Immunodeficiencies (IPOPI)
Web: www.ipopi.org
Email: info@ipopi.org

The UK Primary Immunodeficiency Network (UKPIN)
Tel: 0191 282 0721
Web: www.ukpin.org.uk
Email: Olga.Bryce@nuth.nhs.uk

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Subgram Patient DVD

UK /sg/0414/0001a
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Call your doctor or nurse if any of the following events occur:

> You experience a high level of pain during or shortly after the infusion.
>
> You develop a fever or experience signs of an allergic reaction in relation to the infusion.

The BPL commitment:

Bio Products Laboratory (BPL) creates therapeutic plasma products that save and improve lives.

If you need further medical information about Subgam, please speak to your nurse or contact our medical department on:

Tel: +44 (0)20 8957 2622 or email: medinfo@bpl.co.uk

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