

## **Mr. George Ampat MS, FRCS (Tr & Orth)**

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### **Patient / General Practitioner Information.**

#### **MAST Therapy - Modic Antibiotic Spine Therapy.**

The above mentioned treatment is based on some latest research by a group from Denmark.

They published their findings as

Antibiotic treatment in patients with chronic low back pain and vertebral bone edema (Modic type 1 changes): a double-blind randomized clinical controlled trial of efficacy. Albert HB, Sorensen JS, Christensen BS, Manniche C

This article is available freely on the internet at

[http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3631045/pdf/586\\_2013\\_Article\\_2675.pdf](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3631045/pdf/586_2013_Article_2675.pdf)

Their results show that following a 100 day treatment with Antibiotics the back and leg pain decreased over a period of time. The improvement was slow and patients continued to improve over the following year i.e even after the antibiotics were stopped. On a scale of 0 to 10 the average back pain for the study group was 6.7/10 at the start of the study and at 100 days it decreased to 5/10 and at one year it was 3.7/10. The leg pain was 5.3 at the start of the study. It decreased to 3/10 by 100 days and to 1.4 in one year. Please note that the improvement was not instantaneous on commencement of treatment with antibiotics but slowly over a period of time. For any effect to be noticed it takes at least 6 to 8 weeks.

All the patients did not obtain relief and some of the patients had to withdraw from the treatment because of complications including diarrhoea as a result of the antibiotics.

Previous independent research had shown that disc material removed during discectomy, following culture in the laboratory, grew the anaerobic bacteria, *Propionibacterium acnes*. Dr Albert and her study group in their recent article have postulated that this bacteria reside on the inner corners of the mouth. When brushing the teeth, bacteria are released into the bloodstream as a result of the micro trauma of brushing. Once in the bloodstream the bacteria is looking for an anaerobic environment (without oxygen) to live in. If at that time the patient has a disc prolapse or an inflamed disc, the patient is likely to have increased blood supply around the prolapse. The *Propionibacterium acnes* enter the disc through these new blood vessels. Inside the disc they find an anaerobic environment and reside there. The bacteria themselves are slow-growing and do not cause any significant effects. However one of the by-products of the bacterial metabolism is propionic acid. This propionic acid seeps from the disc spaces into the adjacent vertebral endplates. This propionic acid has the ability to destroy the edges of the vertebrae and cause microfractures. The Modic endplate changes seen on the MRI scan are due to the oedema / fatty changes as a result of these microfractures.

Please also be aware that though the researchers have claimed success, we are still not certain that this treatment will work. Independent thinkers have suggested that further research may be necessary before this can be universally accepted.

Some of these material can be found at

Aebi M. Is low back pain after disc herniation with Modic Type 1 changes a low-grade infection? Eur Spine J. 2013 Apr;22(4):689. doi: 10.1007/s00586-013-2736-2. Epub 2013 Mar 8.

[http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3631021/pdf/586\\_2013\\_Article\\_2736.pdf](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3631021/pdf/586_2013_Article_2736.pdf)

Wise J. Study proposes antibiotics as possible new treatment for some types of chronic low back pain. BMJ. 2013 May 9;346

<http://www.bmj.com/content/346/bmj.f2988>

McCartney M. Antibiotics for back pain: hope or hype? BMJ. 2013 May 14;346

<http://www.bmj.com/content/346/bmj.f3122>

Broadsheet newspapers have also taken a keen interest in this article. Some of the features can be found at

**The Telegraph: on 07/05/2013** - Antibiotics could cure 40pc of chronic back pain patients

<http://www.telegraph.co.uk/health/healthnews/10042211/Antibiotics-could-cure-40pc-of-chronic-back-pain-patients.html>

**The Independent on 07/05/2013** - 'The stuff of Nobel prizes': Research claims antibiotics could cure 40pc of chronic back pain patients

<http://www.independent.ie/lifestyle/health/the-stuff-of-nobel-prizes-research-claims-antibiotics-could-cure-40pc-of-chronic-back-pain-patients-29249139.html>

#### **What will we do?**

We will provide a thorough assessment of your spinal condition which will include a detailed examination. Following that we will organise a MRI scan of your spine. Following the examination and MRI we will inform you if you are suitable for this treatment. Not all patients who have back pain are suitable for this treatment. Once we both agree to proceed we will document your pain and will ask you to fill in a questionnaire. We will maintain these details as part of our audit and clinical governance. You will have to agree for us to hold this data. As suggested further data and results of this method of treatment is required and hence this requirement.

#### **What you need to do**

You need to take antibiotics for 100 days. You need to take 2 tablets 3 times a day, with an interval of 8 hours between the tablets. You need to take 2 tablets with your breakfast, 2 tablets in mid-afternoon and 2 tablets just before going to bed. It is important that you take something to eat with the tablets.

It is important that you resting and lying down for 1 to 2 hours after you have taken the tablets. This is to relieve the discs of standing pressure and to enable the antibiotics to enter the discs. You must rest at least 30 minutes.

You can live as normal and you are allowed to drink wine and beer in limited quantities.

There may be side effects in some patients. The side effects are usually mild and usually at the beginning of the process. It seems a bit overwhelming when they are listed.

#### **The usual side effects are Loose stools or diarrhea**

The most common side effect is loose stools or diarrhea. It occurs because the antibiotics kill some of the bacteria in the intestines. The symptoms are usually worst in

the first week and then reduces over the course of the following 2 weeks. Very few have loose stools for all the 100 days, but then it stops immediately as one stops taking the tablets. It is important that you replace the bacteria that is killed in the stomach with new good bacteria. The easiest way to do this is by eating yoghurt. Not all yoghurts contain the appropriate bacteria. The right bacteria is called acidophilus. These are available in the supermarkets. If you do not like yoghurt, then you can buy some tablets / capsules which the good bacteria (**Lactobacillus acidophilus**). I have provided a sample picture of one such tablet / capsule. This is available in Tesco. I have used samples from Tesco only as an example. You should be able to get these from any supermarket or even the internet. There is no reason to buy these only from Tesco.

### **Vaginal fungal infection**

On rare occasions, women taking a long course of antibiotics can develop fungus in the vagina. It occurs because antibiotics kills some of the bacteria that protects the lining of the vagina. This can be resolved with suppositories. If you get vaginal discharge and itching below, contact your GP or call us if you need further help.

### **Dark teeth**

A very few patients experience a dark coating on the teeth, and can develop a metallic after taste in their mouth. This is not nice, but is not dangerous. Once the antibiotic cure is over, you can get a tooth polishing at the dentist, and then the discoloration is away and will not come back.

### **Liver effects**

All drugs and alcohol are broken down in the liver. Taking antibiotics will increase the liver enzymes in your blood. This may happen even after a few glasses of wine. In very rare cases, the liver responds to antibiotics more forcefully. If you develop unusual symptoms contact your GP who would be able to test your blood. If the blood tests show that your liver enzymes are significantly elevated then you have to stop the antibiotics immediately.

### **Hives**

Only a few develop a skin reaction similar to hives, i.e red bumps and itching. If you get it, it may be because your body is taking some time getting used to the drug. Stop taking the antibiotic and consult your GP or take some antihistamines. Call us and we will provide you instructions on how to restart the antibiotics once again at a more slower pace.

### **Vitamin D**

To ensure bone healing we recommend that you take a minimum of 25 micrograms of vitamin D3 daily. Along with vitamin D you must also have calcium if you do not drink half a liter of milk each day.

### **Vitamin B**

Nerve damage following disc herniation can cause numbness or tingling in the legs. B vitamins helps to rebuild the nerve. To assist the body in this rebuilding, you can take a combination product, which contains B1 + B6 + B12 vitamins.

What you need to take everyday



1 gram of Amoxicillin  
3 times a day



Yoghurt with L.acidophilus

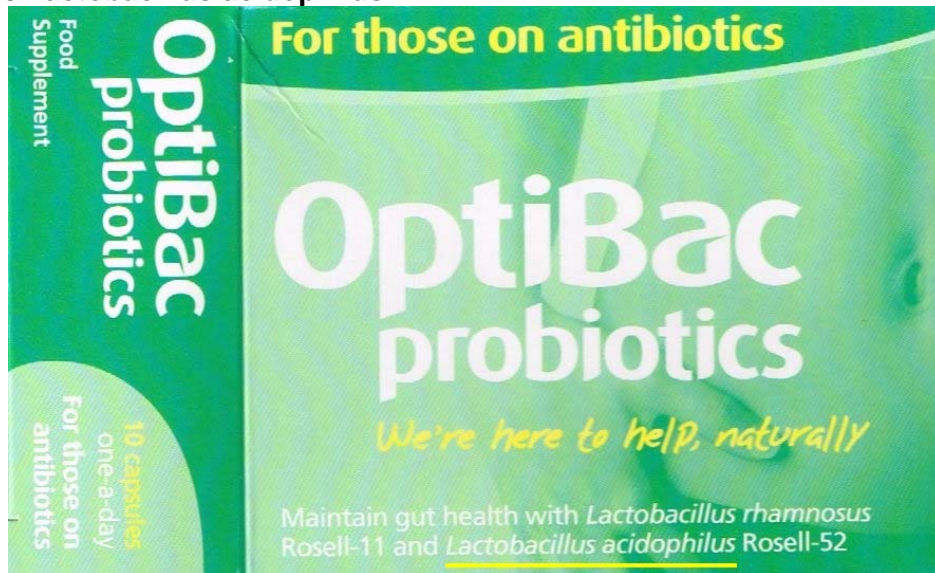


Vitamin D + Calcium



Vitamin B complex

If you cant take yoghurt you can take one of these capsules or an alternative that contains **Lactobacillus acidophilus**



If you have any doubts please do not hesitate to contact Mr. George Ampat on 07871590593.

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Consulting at

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Church Street Consulting Rooms, 12 Church Street, Southport, PR8 0QT

Oaklands Hospital, 19 Lancaster Road, Salford, M6 8AQ

11 St John Street, Manchester M3 4DW

Eighty Eight Rodney Street, 88 Rodney Street, Liverpool, L1 9AR