

The Use of Probiotics alongside Antibiotics



Antibiotics effect on the Microflora & Immunity

Antibiotics are now well known to significantly disrupt protective intestinal and vaginal microbiota, significantly reducing bacteria considered to have health-promoting properties such as *Bifidobacterium* spp. and *Lactobacillus* spp. A diverse microflora plays an important role in the functioning of strong immune and digestive systems. The predominance of lactobacilli in a healthy vagina is known to create an acidic environment that protects women from infection. *Candida* spp. overgrowth is often seen after a course of antibiotics when the defence layer of beneficial bacteria in the gut has been disturbed.

Additionally, antibiotics have been shown to specifically impair white blood cell function, a crucial line of defence¹ and slowing down their movement to the site of infection can delay healing². Certain antibiotics have been shown to interfere with the production of mature T-cells by the thymus gland³ and antibody production by B-lymphocytes¹. However, these suppressive effects are beneficial

Introduction

Antibiotics have saved many lives and still play an extremely important role in combatting bacterial infection. However, there is some concern that antibiotics, particularly broad-spectrum, have been used a little too often in both humans and animals. Conditions such as coughs, colds, sore throats and flu rarely require antibiotics. It is however, extremely important to complete a course of antibiotics once started to

prevent the development of antibiotic resistant strains. Antibiotic resistance is when a strain of bacteria no longer responds to treatment with one or more types of antibiotics. This is a growing concern, particularly because no new antibiotics are in development. Current Government strategy is to promote more responsible use of antibiotics among doctors, prescribing them only when they are really needed, and ideally after laboratory testing.

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qualities in treating some specific inflammatory conditions and preventing the rejection of transplants³.

Antibiotic Associated Diarrhoea (AAD)

Antibiotics, as with any medication, can cause side effects such as nausea, vomiting and diarrhoea. By altering the microbial balance within the gut, further pathogenic bacteria are able to selectively overgrow increasing the risk of developing a further intestinal infection; the main symptom of which being antibiotic associated diarrhoea⁴.

Probiotics alongside Antibiotics

A systematic review and meta-analysis by Hempel⁵ in 2012, which analysed 63 randomised controlled trials (RCTs) including 11,811 participants, indicated a statistically significant association of probiotic (live bacteria) administration with reduction in AAD. Studies have indicated that probiotics may prevent AAD via restoration of the gut microflora⁴. Probiotics may also provide such benefit by directly secreting antibacterial substances targeting pathogens and disrupting biofilm formation, making it easier for antibiotics to function; and by enhancing generalised mucosal immunity, which in turn aids in the eradication of the organisms at the mucosal site⁶.

A Cochrane review in 2011⁴ noted that the most effective dose in protective studies appeared to be ≥ 5 billion CFUs a day. This protective effect could be evident during and after antibiotic treatment but it could take some time to rebalance the gut microflora and to restore normal gastrointestinal function. In a review in 2009 McFarland *et al*⁷ pointed out that most studies only assign probiotics for the duration of the treatment but that AAD may be delayed for up to two months in up to 38% of

patients. In a randomised controlled trial of a probiotic mixture given to prevent AAD, the rate was similar during antibiotic treatment, 6.2% versus 8.1% control, but cases of delayed-onset AAD were significantly fewer in the probiotic group at 5.7% compared to the control group at 27.5%⁸.

Used alongside standard triple drug therapy for *Helicobacter pylori* a multi-strain probiotic (using Protexin strains) at a dose of 1 billion CFU significantly improved eradication rate, whilst lowering side effects of nausea, vomiting and diarrhoea⁹. Another multi-strain probiotic (using Protexin strains) at a dose of 100 million CFU taken alongside antibiotics significantly improved symptoms of bacterial vaginosis at a higher rate of 87.5% compared to placebo at 67.5%¹⁰. Interestingly in 2005 Plummer *et al*¹¹ found that following antibiotic therapy, antibiotic resistant strains increased in the placebo group but not in those taking a daily probiotic. This could be due to the probiotics ability to clear antibiotic resistant strains thereby preventing the spread of infection, an effect demonstrated in a mouse study by Ubeda *et al* in 2013¹².

Conclusion

During antibiotic therapy extra protection could be provided by consuming a probiotic supplement at the same time, although at least 2 hours apart and continued for at least 2-4 weeks after completion of the antibiotic course at a dose of around 5 billion CFUs a day. An additional strategy could be to support the body's natural immunity to prevent initial infection by considering regular consumption of probiotics as a daily preventative.

REFERENCES AVAILABLE ON REQUEST

Equine Premium Christmas Competition



We've just drawn winners

for our exciting Christmas Competition! We were overwhelmed by the response to win a hamper full of Equine Premium goodies. The lucky winners get some treats for themselves and some Equine Premium product for their horse.

Protexin Equine Premium Bursary Update

We announced our Bursary winners

in autumn last year. Nicki Strong was the winner of our Adult Bursary and Emily Mustow was the winner of our first ever Junior Bursary Award. They have both been using their prizes to fund more training. We will be launching the 2016 Protexin Equine Premium Bursary Award in April this year. To register your interest please visit equinepremium.com/bursary.



Nicki Strong and Blue being presented with their prize by Jessica Bowen, South West Territory Manager

Emily Mustow being presented with her prize by Louise Leverton, Central Territory Manager



Human health care



Bio-Kult Bursary is back for its second year

After a successful first year

of running its student bursary Bio-Kult is excited to announce that the bursary is back for its second year. Bio-Kult are once again giving one student the chance to win £1000 to help them achieve their nutritional career goals. One lucky runner up will also receive £500. To enter, students need to tell Bio-Kult what they would spend £1000 on – healthcare related of course!

Speaking of this year's award previous winner, Stephanie added, "I would definitely encourage everyone to apply for the 2016 bursary. It's had a wonderful positive effect on my journey towards becoming a nutritional therapist. It's good fun and focusses the mind to think about how you might spend the money!"

To apply just visit bio-kult.com/student and upload your application between 20th January and 1st June 2016.

New Look Lepicol

Fab new look – same great product. Lepicol's marketing material is getting a re-brand with a fantastic new look. It's already started to roll out and is decorating windows and displays across the country. Don't worry they're still the same great products with the same benefits.



Winter worries campaign Bio-Kult

It can be the most wonderful time of the year, but winter can also cause worries over your health as you battle the big chill. To help combat this Bio-Kult have bought back their Winter Worries campaign.



Beneficial bacteria play an essential role as our first line of defence, in supporting efficient digestive function and immunity. Nutritional Therapist, Natalie Lamb comments: "Up to 70% of our immune cells are located in the gut. Our good gut bacteria could be compromised if busy fighting bugs, by antibiotic therapy, travel, stress, excess alcohol or a period of inadequate nutrition, which is quite common during the winter season." But it's not just bloating, digestion and colds that live bacteria supplements could help with. Natalie continues, "Taking a daily dose of live bacteria was recently shown to increase vitamin D levels by more than 25% (well known to be low in SAD) and to modulate the area of the brain responsible for mood."

Bio-Kult is a scientifically developed, advanced multi-strain formula containing 14 live bacterial cultures, proven to survive the high acidity of the stomach.

The campaign is being supported by health stores, and pharmacies around the country so keep an eye out for the promotion and ensure you stock up on Bio-Kult to combat your own winter worries.

Veterinary

Launching into the joint market

We are thrilled

to have been appointed distributors of Dasuquin and Cosequin in the UK and Ireland! Not only do we have a highly trusted and well established joint supplement in Cosequin but we are now able to introduce the next generation, Dasuquin.

Dasuquin, also from the makers of Denamarin, is an advanced joint health supplement for dogs that feeds and helps to support the cartilage in their joints, helping them maintain normal movement. It supports the dog's joints by maintaining normal architecture and feeding it key nutrients that help it stay healthy.

Dasuquin has the same high quality, researched Glucosamine HCl and Chondroitin Sulphate as Cosequin but also has the addition of Avocado-Soybean Unsaponifiables (ASU). ASU has over 30 published and peer-reviewed studies to demonstrate safety, bioavailability and efficacy in dogs, cats, horses and humans.

For further information on Dasuquin please visit protexinvet.com.

Dasuquin launch at London Vet Show 2015



For further details on our campaigns please contact Kate Rouse, Marketing Manager, kate.rouse@protexin.com.



Company News

Christmas Jumper Day for St Margaret's Hospice...

The Probiotics team took part in Christmas Mufti day on the 18th December 2015 to raise money for St Margaret's Hospice.

We raised a whopping £116.56 which was then matched by the company making a huge amount of £233.12 for our chosen charity. Have a peak at just a few of the team showcasing their knits.



Meet the new look marketing team



As a fast growing, dynamic and award winning organisation the Probiotics team keeps on expanding. And the marketing team is no exception. With three new members to the team the marketing department has doubled in size.

Meet, Anna, Beki and Hayley who join Lizzie, Kate and Adam to complete the team.

Anna Graduated from the University of the West of England and went on to complete a Postgraduate Diploma in Marketing, Anna has experience working in a range of Marketing roles as well as teaching roles in Europe and Asia and joined the team in January as the USA Brand and Events Manager.



Rebecca and Hayley joined in November, Rebecca, the team's new Administrator has most recently been working at HSBC in Yeovil as a Customer Services Officer and also has experience in Sales and Stock Administration roles.

Hayley joined the team as Brand Manager for the human health product range. After graduating from her Masters degree in Creative Advertising, Hayley spent the following 7 years working for TUI Travel in various roles including Marketing and Brand Management before joining Probiotics International Ltd.

The team are having a great time getting to know the products and each other and are really excited about what is in-store for 2016.



Best Companies Accreditation

We are delighted to announce that from these surveys we have once again been accredited, this time with a 2 star rating from Best Companies!



Following us on social media is a great way to keep up to date with all our latest news, events and research.

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