Probiotics - not just acidophilus

Agenda
What are probiotics & prebiotics?
Why strain selection is critical
OptiBac / Institut Rosell quality
The OptiBac Probiotics range
- For those on antibiotics
- For daily wellbeing
- For daily wellbeing EXTRA
Q&A / FAQs etc.

What are Probiotics
‘Live microorganisms which when administered in adequate amounts confer a health benefit on the host’ (WHO, 2001)

The intestines
- Surface area: more than 300m²
- 1st immune organ: 60 to 70% of body’s immune cells
- 100 trillion bacteria
- Weighs about 1.5kg

A healthy gut is key to a healthy body

Benefits of Probiotics
Healthy Digestion
Strong Immune System
Improved Energy Levels

The balance is very fragile
This balance is easily offset by factors such as:
- Stress
- Ageing
- Medication (e.g. antibiotics & contraceptive pill)
- Additives and preservatives in our food
- High sugar levels
- Travelling abroad
Probiotics?

Drawback: Most consumer knowledge of probiotics is limited to sugar-rich supermarket probiotics.

Probiotic Strains

- Different strains/types of friendly bacteria reside in different zones throughout the length of the Gut

<table>
<thead>
<tr>
<th>Strain Choice: Which Species?</th>
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<tbody>
<tr>
<td>Repartition of healthy bacteria in the GIT</td>
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<table>
<thead>
<tr>
<th>Concentration log CFU/g</th>
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</thead>
<tbody>
<tr>
<td>Mouth</td>
</tr>
<tr>
<td>Lactobacillus (10^9/g)</td>
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<tr>
<td>Bifidobacterium (10^9/g)</td>
</tr>
<tr>
<td>E. coli + Streptococcus</td>
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<tr>
<td>Bacteroides</td>
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</table>

Evolution of the bacterial species in the GIT depending on the age of life

Strain choice: which species?

What are Prebiotics?
Prebiotics

Indigestible fibres that selectively stimulate the growth and activity of beneficial bacteria (probiotics) of the intestinal flora.

Safety

It is not recommended to give probiotics to:
- Severely immunosuppressed patients
- Post cardiac surgery patients
- Patients with pancreatitis
- Patients with Type 1 diabetes
- Patients in ICU
- Patients with blood in the stool

The synergistic effect of probiotics and fructooligosaccharides (FOS)

FOS selectively feed Bifidobacteria: called the "bifidogenic effect"

Before FOS consumption

After FOS consumption

Background to Probiotics & Prebiotics

• Any Questions so far?

Probiotics & Lyme disease

• No direct studies currently published
• Important during & after antibiotic use
• Aims
  a) Prevent thrush & diarrhoea etc.
  b) Boost immunity
• As Borrelia burgdorferi can remain latent, having a strong immune system is critical

Probiotics & Immunity

1. Create a ‘barrier effect’
2. Produce antimicrobials such as lactic acid
3. Compete for available nutrients & space (competitive exclusion)
4. Improve the non-specific innate immune response
5. Boost the acquired immune response (vaccine principle)
Quality Probiotics

Undertake in vitro tests to prove specific strains...
- Survive gastric acidity (at varying pH levels & at 37 degrees Celsius to mimic the stomach)
- Survive bile salts
- Adhere to the intestinal wall lining e.g. epithelial cells
- Inhibit specific pathogens from binding
- Stimulate innate & adaptive immune response
- Have targeted actions & benefits for the host

For those on antibiotics

- Antibiotics kill both bad and good bacteria
- Prevent Thrush, Diarrhoea, Constipation
- 10 day course – typical antibiotic course is 5 to 7 days
- RRP: £5.49

Stats about Antibiotic Associated Diarrhoea (AAD)

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>AAD (%)</th>
<th>One day diarrhea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penicillin G and V</td>
<td>3%</td>
<td>8%</td>
</tr>
<tr>
<td>Penicillin A and M</td>
<td>11%</td>
<td>21%</td>
</tr>
<tr>
<td>Amoxicillin + β-lact inhibitor</td>
<td>23%</td>
<td>43%</td>
</tr>
<tr>
<td>Cephalosporin</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>Macrolides</td>
<td>8%</td>
<td>15%</td>
</tr>
<tr>
<td>Trimethoprim + sulfadiazole</td>
<td>6%</td>
<td>20%</td>
</tr>
<tr>
<td>Erythromycin + sulfathiazide</td>
<td>16%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Preliminary studies on FTOA

1) 20 children were with bronchitis or pneumonia were administered L. acidophilus Rosell-52 and L. rhamnosus Rosell-11 with antibiotics.

No intestinal complaints were noted, including no record of AAD (FTOA Technical Dossier)

2) 15 children suffering from dysbacteriosis and diarrhoea following an antibiotic course were given L. acidophilus Rosell-52 and L. rhamnosus Rosell-11.

Clinical symptoms were alleviated, consistency of stool improved and their number decreased. (FTOA Technical Dossier)
For daily wellbeing

• General daily probiotic
• Boost daily immunity, digestion, energy levels
• IBS Sufferers
• For those with eczema, asthma, food intolerances, allergies, acne
• Retail price: £9.99

And the others....

• For daily immunity
• For travelling abroad
• For your child’s health
• For bowel calm
• For a flat stomach

Extra Strength

• 20 billion probiotic
• Including L. acidophilus NCFM – the industry’s most well-researched acidophilus strain
• For those on long-term antibiotic courses, IBS, IBD etc.
• Retail price: £21.99

Frequently Asked Questions:

• Do “healthy” people need to take probiotics?
• How long does it take to feel the effects of taking probiotics?
• What is the recommended dosage of probiotics?
• Do probiotics have any side effects and are there people who should not take probiotics?
• Are there any risks attached to taking too many probiotics?
• Can probiotics be taken by infants / during pregnancy?
• Is it better to take probiotics on an empty stomach or with meals?
• Are probiotics good for lactose intolerance?
• What factors are probiotics sensitive to?
• How should probiotics be stored?

References

• Benes, Z. et al. (2006). Lactobacillus (Lactobacillus R-005 & Lactobacillus R-006) alleviates symptoms of IBS. European Journal of Gastroenterology and Hepatology, Vol. 5, pp. 20-27