

Development

IN THE NEW GLOBAL MARKETPLACE, BIOMEDICAL RESEARCH IS INCREASINGLY VITAL NOT ONLY TO LIFESAVING ADVANCES IN MEDICINE BUT TO ECONOMIC AND PRODUCTIVE OPPORTUNITIES. THE COLLABORATION OF MEDICAL RESEARCHERS WITH PRIVATE SECTOR COMPANIES IS CREATING NEW CHALLENGES AND

EXCITING POSSIBILITIES FOR THE FUTURE.

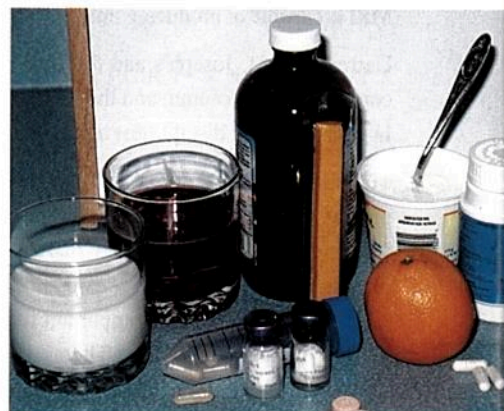
GOOD BUGS CHASING BAD BUGS

A Lawson Research Institute microbiologist is hoping to bring his treatment for urinary infections to the consumer marketplace. With increasing concern about antibiotic resistant bacteria, scientists are looking for new and alternative ways to battle bad bugs. Who may be the greatest enemy of nasty bacteria?... Another bug, one of the "good ones". The area of research that looks at "good bugs chasing bad bugs" is called probiotics and is a particular interest of microbiologist Dr. Gregor Reid, the LRI's associate scientific director.

Urogenital tract infections (bladder, urethra, vagina) are common and troublesome to women. However, these infections may also be among the most vulnerable to the probiotic approach. Dr. Reid is at the forefront of research that is discovering the role of naturally occurring lactobacilli in treating and preventing urinary infections. Lactobacilli are interesting organisms whose potential in well-being is now becoming better known.

If you are familiar with "health foods" or nutritional supplements, you likely know that lactobacilli are often used to make yoghurt. The lactobacilli Dr. Reid is working with are similar to, but not identical with, the lactobacilli in yoghurt. Dr. Reid's strains are specially selected forms of lactobacilli designed to prevent infection.

Dr. Reid and his colleague in Toronto, Dr. Andrew Bruce, have been granted the Canadian patent for a treatment involving lactobacilli that patients can easily use. In November 1996, Dr. Reid and Dr. Bruce signed an option agreement with the Canadian affiliate of a large American multi-national corporation with a view to eventually distribute the lactobacilli treatment worldwide. Several other patents in the U.S. and elsewhere are pending.



Seeking opportunities for obtaining patents on technology and treatment developed at the LRI will be a strong focus in the coming months and years. In this way, researchers can get innovative products and treatments out to a very wide constituency. The lactobacilli treatment is a prime example of how such worldwide distribution could improve health outcomes, in this case particularly for women.

Bladder infections are very common (mostly because the urethra in women is shorter than in men and therefore bacteria can more easily access the bladder). People can be vulnerable to these infections when they take antibiotics or are under stress, conditions that may alter the normal flora of the vaginal and urinary area. The lactobacilli research offers a potentially very effective way of preventing these infections.

Lactobacilli may also hold the key to dealing with more serious problems, for example, when urinary medical devices, such as catheters or kidney stents inserted into a patient, become "colonized" with potentially deadly bacteria. At St. Joseph's Health Centre alone where patients receive high tech lithotripsy treatment for kidney stones, urologists insert over 2000 stents per year to help the urinary tract drain urine and stone fragments.

Infections originating from the growth of bacteria on these types of devices are reported to kill 100,000 people per year in the U.S. alone, and this has health professionals concerned because the antibiotics used to treat the infections are getting less effective. However, initial research at the LRI

has shown that lactobacilli and their by-products are capable of detaching the bacteria from the devices and potentially protect urology patients from serious infections. Dr. Gregor Reid and Dr. John Denstedt, St. Joseph's Health Centre's Chief of Urology, are also working with private industry to develop new materials out of which urinary devices are made that will be safer and more effective for patients.

Are there other good bugs out there that can kill bad bugs? The new field of probiotics at the LRI shows significant promise as we move toward the 21st century.