



Transdermal drug delivery technology

Thursday 23<sup>rd</sup> November 2006

## OBJ ANNOUNCES POWER-LESS ACTIVE DRUG PATCH

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OBJ Limited (ASX:OBJ) is pleased to announce the development of what is believed to be the first power-less active drug patch technology.

The program was established to determine how OBJ's expertise in non-contact active drug delivery techniques could be applied to create a new type of drug patch substrate with the ability to drive larger and more complex molecules through the skin.

Traditional drug patches, such as those used in smoking cessation and hormone replacement, use a drug and adhesive matrix that relies on the slow migration of drug molecules from the matrix into the skin. This has restricted the commercial use of drug patches to simple molecules and low dose applications. In spite of the limited number of drugs that are suitable for such delivery, the transdermal drug patch market is expected to reach US\$4.5 billion over the next 6 years. A change in the underlying capabilities of drug patch technology would be expected to impact significantly on this market.

OBJ is a leader in non-contact inductive drug delivery systems and for the last year has focused on migrating its advanced drug delivery technology to this potentially high volume drug delivery field.

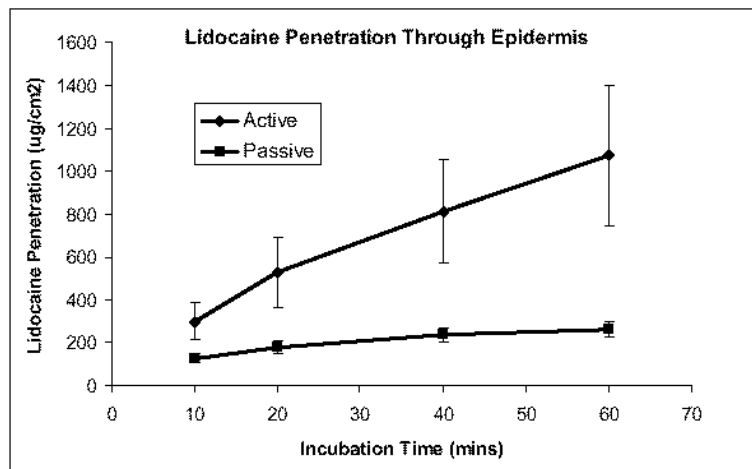
The result is a novel biphasic material, the subject of a recently lodged patent application, that captures thermal energy from the body to create an active drug push. Unlike traditional drug patches it does not require the drug-adhesive matrix, and as a result can avoid the drug retention, disposal or adhesion problems currently facing traditional drug patches.

The new OBJ powerless patch, like all other OBJ products and technologies, are specifically designed to meet the new ISO 1400 Standard for Environmental Management. These standards were developed in Europe to overcome the environment problems caused by the high levels of drug residues of traditional patches leaching into waterways and streams.

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Performance of the new power-less patch, in in-vitro studies, has generally been in line with the delivery rates achieved by iontophoresis, the most commonly used form of active transdermal drug delivery technology on the market. OBJ has been able to achieve similar delivery rates without the adhesion, electrical contact and battery disposal problems currently facing iontophoresis.



The graph above, shows the drug delivery effect of the new powerless patch when compared with passive diffusion in-vitro, in the delivery of the local anaesthetic Lidocaine through excised epidermis.

The new powerless patch will compliment the company's existing contact-less Dermaportation system which provides re-usable and personal drug delivery solutions for pharmaceutical, animal health and cosmetic applications. While the new drug patch substrate lacks the power and advanced capabilities of Dermaportation, it does represent the first step into directed and controlled drug delivery using a passively powered device.

The on-going development, testing and refinement programs of the new drug patch system and the expansion of the Intellectual property portfolio into specific drug use is expected to continue for some time, as only a limited number of drugs have been evaluated in an in-vitro environment to date.

The powerless patch is expected to expand the company's product and technology offerings and in turn allow it to better meet the needs of the major pharmaceutical and cosmetic companies.

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## Background to the Announcement

The OBJ Dermaportation technology has been shown to manage and control the transdermal delivery of a broad range of drugs and therapeutic agents ranging from small difficult molecules such as Caffeine, through to large macro-globular proteins drugs such as vaccines.

OBJ's technology has been independently proven in both in-vitro and in-vivo studies and can manage a broader range of molecular sizes, structures and valencies than other active or passive drug delivery systems.

OBJ has been successful in managing the through-the-skin delivery of drugs used in the inflammation, pain, cancer and cosmetic fields.

OBJ's technology is low cost, and can be incorporated into reusable drug patches, (as illustrated) disposable single use drug patches and in a range of packaging systems for OTC and retail use.

### Sustainable Benefits

Low cost and controlled through-the-skin delivery of drugs, hormones, vitamins, vaccines, anti-bodies and anti-aging molecules has long been the desire of the pharmaceutical industry. It would provide economic, safety and efficacy benefits to the pharmacology, medical, veterinary and cosmetic industries. Side effects could be reduced by localised delivery and programmed delivery rates. Needle stick injuries and needle disposable problems could be eliminated while the reduction in the level of skill required for application could significantly reduce total cost of many health programmes. These clear commercial benefits may only be achievable if the skin's natural barrier effect can be overcome.

OBJ is the first company to create a broad spectrum through-the-skin delivery system that is kind to the skin, completely reversible, yet can handle drugs range from the small difficult molecules up to the largest and most complex proteins and anti-bodies. OBJ manages an extensive IP portfolio and prosecutes patent applications throughout the world.

### Independence of Results

OBJ contracts its drug and technology testing programs to independent and respected organisations, such as Western Australian Biomedical Research Institute, Western Australian Institute for Medical Research, Curtin University of Technology and Murdoch University. The high level of independence and international accreditation means that the results attributable to OBJ's proprietary technology can be published and presented at major medical and scientific conferences and forums.

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