

9 March 2018

## **OBJ's First Pharmaceutical Ingredient Clinical Study Reported as Successful**

**OBJ Limited (ASX: OBJ)** is pleased to announce that it has received a report from Professor Tony Wright of Curtin University's School of Physiotherapy and Exercise Science outlining the results of the double blind study into the clinical outcomes following short term (48 hours) administration of a magnetophoresis enhanced transdermal Ibuprofen (5%) patch in comparison to placebo, funded by OBJ and the Department of Industry, Innovation and Science.

### **The Study**

The study utilised a double-blind, repeated measures design. Each participant completed two study periods in which they received magnetophoresis enhanced transdermal ibuprofen patches or placebo patches in randomised order. The study participants were 24 (6 male: 18 female) community-dwelling volunteers (mean age 66, range 60-77) with medically diagnosed painful knee OA. The primary outcome measures were VAS rating of pain on movement, WOMAC pain score and WOMAC function score. Secondary outcome measures included VAS rating of pain at rest, WOMAC stiffness, ALF score, ALF pain rating and PPT.

The study sought to demonstrate that OBJ's array-back hydrogel technology could be used with 3<sup>rd</sup> party therapeutic drugs such as ibuprofen

### **Results**

There were significant differences between the active patch session and the placebo patch session for all of the primary outcome measures, VAS for pain on movement ( $F_{1,46} = 30.074$ ,  $p < 0.001$ ), WOMAC pain score ( $F_{1,46} = 9.005$ ,  $p = 0.004$ ) and WOMAC function score ( $F_{1,46} = 9.838$ ,  $p = 0.003$ ), indicating that participants experienced less pain and improved function during the 48 hour active patch session. There were also significant improvements across most of the secondary outcome measures. The majority of participants reported no skin reactions to either placebo or active patches (75% - 18/24). Slight skin redness was reported by 5 participants with the active patches and 6 participants with the placebo patches; all associated this with the adhesive tape rather than the gel

### **Conclusions**

Professor Wright stated in his report that, "It is clear that the active kneeguard device containing ibuprofen (5%) with magnetophoresis produced a significantly greater reduction in pain and improvement in function than the placebo device. This was particularly the case for movement related pain. The reduction in pain was apparent with both VAS pain ratings and WOMAC pain score. There was also a clear improvement in function based on the WOMAC function score. The anti-inflammatory effect of ibuprofen may also be linked to the improvement in stiffness (WOMAC stiffness score) reported by many participants, and the reduction in pressure sensitivity indicated by the significant improvement in pressure pain thresholds".

Twenty-two participants (92%) considered themselves either better or much better following the active patch treatment.

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## About OBJ

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OBJ develops proprietary magnetic microarray drug delivery and product enhancement technologies for the pharmaceutical, healthcare and consumer goods sectors. OBJ partners companies in the design and development of next generation products using physical science rather than chemistry to provide new levels of product performance without the cost of reformulation or new ingredient approvals.

OBJ offers a portfolio of proprietary technologies and supports partners by providing IP-protected market exclusivity, expertise in magnetic array design, feasibility and efficacy and claims testing, engineering and production.

## About OBJ's Technologies

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OBJ has developed a number of physical enhancement technologies based on the interactions between ingredient molecules and weak atomic forces. These influence the movement and penetration through the skin of drugs, active ingredients and formulations at the molecular level.

Complex 3-D magnetic fields produced by low cost microarrays or powered electromagnetic inductors have the ability to repulse certain molecules to enhance diffusion and to alter the permeability of biological and non-biological targets.

OBJ's low-cost microarray film technology that utilise diamagnetic repulsion, induced permeation and energy redirection has already reached international markets to provide OBJ's Partners with a new way of managing the speed, depth of penetration and delivery of active ingredients in a wide range of pharmaceutical, healthcare and consumer products.

## Forward-Looking Statements

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This announcement contains certain "forward-looking statements" concerning OBJ. Where OBJ expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis.

Forward-looking statements provided in this announcement are based on assumptions and contingencies which are subject to change without notice. Such forward-looking statements including statements regarding intentions, planned events and potential results are provided as a general guide only and should not be relied upon as an indication or guarantee of future performance.

There can be no assurance that actual outcomes will not differ materially from these forward-looking statements, and there are risks associated with OBJ and the industry which may affect the accuracy of the forward-looking statements. OBJ does not undertake any obligation to release publicly any revisions to any forward looking statement to reflect events or circumstances after the date of this announcement or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.

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