

# A Clinical Evaluation of Liquiband® Optima

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**Tissue adhesives are now in common use across surgical and emergency care practice. Surgical wounds as diversified as ophthalmic, cardiac, vascular, ontological, gynaecological and abdominal are now commonly closed by tissue adhesives. In the accident and emergency department, lacerations to scalp, face and limb closed on a routine basis with these compounds. The common tissue adhesive in use in Scotland is found to be LiquiBand®, ann-butyl-cyanoacrylate, available as a general pharmacy item. Designed for single patient use it is supplied in a sterile plastic ampoule, with one of two applicators, a general pipette or sure flow pad allowing for a more controlled application of the adhesive.**

Singer et al (2002) undertook a RCT of 900 patients with both traumatic lacerations and surgical wounds closed with either medical grade cyanoacrylate or suture. They observed that the healing was faster when cyanoacrylate was used in comparison to that of sutures with comparable if not optimal cosmetic results, wound dehiscence and infection showed to be comparable to that of suturing after 3 months following wound closure. Similar results have been reported in a wide variety of clinical settings.

Singer et al (2007) list potential pitfalls and perils in the use of tissue adhesives including, runoff, burning sensation, dehiscence and wound infiltration among its negatives although they continue atoning that many of the potential problems are minimised by the use of 'flow control' adjuncts and effective training in the use of 'wound glue' as beneficial.

## Evaluation of LiquiBand® Optima

In August 2008, a clinical panel consisting of an A+E Consultant, an SPR in Emergency Care, Lead Emergency Nurse Practitioners from Clyde and Lanarkshire and a selection of nurse practitioners were assembled in Glasgow from four Accident and Emergency Units across the West of Scotland. A discussion by the panel confirmed Singers concerns of 2007 highlighting runoff as one of the main concerns. It was also identified that this was compounded by the limited control demonstrated when using the current adhesive.

During the meeting, LiquiBand® Optima was introduced to the panel and a low key evaluation given.

On the whole, it appeared that the new LiquiBand® Optima product was well liked by all panel members. It was noted that by using the wings in a pen like grip the product became more dexterous and the flow of the adhesive easier to control especially with the flow control tip.

A formal evaluation of the product was then arranged within practice.

## LiquiBand® Optima Clinical Evaluation

Four evaluators were allocated 2 ENP's and 2 nurses who would be using the product, training

was undertaken using the Medlogic training package accredited through the RCN and the evaluation commenced.

Inclusion criteria set for wounds identified wounds which were easily approximated and which were less than 6 hours old. Exclusion criteria listed wounds greater than 15cm length, human or animal bites, heavy contamination or crush induced wounds, wounds in or near mucosa, breast areola or orbital tissue, patients with clotting problems, multiple trauma and known allergy to cyanoacrylate, typically the exclusions already in place in normal practice.

20 Units were available to the evaluators, 17 evaluation questionnaires completed, 3 units used during the education process and to demonstrate to patients the difference in product to the original liquiband in present use.

Verbal consent for the use of LiquiBand® Optima and the use of photography was obtained on all patients and the same documented in their clinical notes. The wound was cleaned, approximated and closed as per local policy; finally the evaluation completed.

LiquiBand® Optima was evaluated using 4 criteria. Ease of use, length of time for polymerisation, reapplication and patient satisfaction.

## The Results

### Location of wounds

9 facial wounds, 5 head lacerations, 2 hand wounds, 1 arm wound.

### Product response

Application of LiquiBand® Optima: 16 evaluations found easy to apply.

### Length of time to polymerisation

15 evaluations less than 10 seconds, 2 10 – 15 seconds

### Reapplication

Out of 17 evaluations NO reapplication was required

### Patient satisfaction

17 evaluations demonstrated that all patients were satisfied with the process and the result.

## OR

### Application

94% of evaluations felt application was easier compared with the standard LiquiBand® product.

### Time to polymerisation

88% within 10 seconds, 22% within 15 – 20 seconds

### Reapplication

LiquiBand® Optima: 0%

### Patient satisfaction

100% of patients and or parent/guardian satisfied with procedure and outcome.

## Conclusion

From the small sample taken both practitioners and patients were found to be greatly satisfied with LiquiBand® Optima. Practitioners commented upon its ease of use and the control of delivery of the tissue adhesive. All the practitioners felt more confident when using LiquiBand® Optima especially within the facial triangle. It was observed by one individual that the viscosity of the product appeared to be less than normal LiquiBand®, but found little or no run off when using the product.

One comment was raised when using LiquiBand® Optima on a scalp wound, it was found the the flow control tip inhibited closure by also adhering to the patients hair, this however was identified as a learning need with the practitioner in wound preparation rather than an issue with the tissue glue.



It must be noted that this was a very limited evaluation, and that the practitioners and panel members from the West of Scotland are keen to run a larger evaluation in order that LiquiBand® Optima is evaluated further.



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## References

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