

# Combined results of a multi-centre evaluation into the clinical effectiveness of LiquiBand<sup>®</sup> Optima

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## Introduction

LiquiBand® Optima is a new formulation of tissue adhesive containing the Octyl-Blend10™ cyanoacrylate which has advantages not only for the patient but also aids the clinician in treating patients' wounds quickly and safely. The new formulation has been designed to combine the fast setting wound closure properties of butyl cyanoacrylates with the more flexible wound dressing capabilities of octyl-cyanoacrylates.

The use of cyanoacrylate tissue adhesives for the closure of minor wounds in Accident & Emergency centres is now relatively common place. In recognition of the many benefits cyanoacrylate tissue adhesives can bring to both patient and clinician, many tissue adhesives are now available for use by Emergency Practitioners. The decision of which cyanoacrylate to use must therefore be determined by consideration of both clinical effectiveness, and user and patient satisfaction levels. Criteria to consider include; ease of use, speed of closure, comparison to other products, and patient comfort.

A multi-centre evaluation into the clinical effectiveness of LiquiBand® Optima was undertaken over the period of December 2008 until April 2009. Twelve centres were involved in the evaluation. Combined results of the evaluations are presented below.

## Patients & Methods

Throughout the evaluation period all patients presenting to the evaluating A&E Departments with wounds suitable for closure with tissue adhesive were treated with LiquiBand® Optima. Following closure, the treating clinician was asked to complete a User Evaluation Report form (see Appendix 1) to record details of the wound, their own user perception of clinical effectiveness and acceptability, and patient tolerance of procedure.

In total one hundred and eleven (111) completed User Evaluation Report forms were received and collated from the twelve evaluation sites (see Chart 1). Patient demographic details were not recorded as all patients presenting to A&E with suitable wounds were included in the study. Patients were treated, recruited, and deemed suitable or unsuitable for closure with tissue adhesive in accordance with standard hospital procedures and protocols.

## Wound Characteristics

The length of wounds closed with LiquiBand® Optima ranged from 0.5cm – 6cm (mean length = 1.91cm). Of the 111 wounds treated; 93 were superficial, 2 partial thickness, 14 deep, and two unclassified.

| Location of Wound | No. of Wounds |
|-------------------|---------------|
| Forehead/head     | 26            |
| Face/nose/cheek   | 8             |

|                |     |
|----------------|-----|
| Pinna (ear)    | 3   |
| Thigh          | 2   |
| Eyebrow/eyelid | 9   |
| Scalp          | 19  |
| Chin           | 15  |
| Arm            | 2   |
| Hand/finger    | 20  |
| Foot           | 2   |
| No answer      | 5   |
| Total          | 111 |

Table 1 : Body Location of Wounds Treated

## Results

Participating clinicians had previous user experience of closing wounds with LiquiBand® Flow Control, Dermabond®, Indermil®, LiquiBand®, Steri-Strips™ and sutures. Clinicians were asked to compare their experience of wound closure with LiquiBand® Optima to that of their previous closure product/device.

### Ease of Use

In 90% of the wound closures undertaken clinicians found LiquiBand® Optima “very easy” or “easy” to use. Of the remaining cases, 4 were deemed “satisfactory”, 1 “difficult”, and 6 did not answer (see Chart 2). In 86.5% of cases, clinicians felt that LiquiBand® Optima was easier or as easy to use compared to their current wound closure device (see Chart 3).

### Speed of Closure

LiquiBand® Optima comes pre-assembled in a sterile package. In 88% of cases, clinicians stated this saved them valuable time in the ER setting (Table 2). Additionally, in 76.5% of wound closures, clinicians stated that LiquiBand® Optima bonded the wound edges together more quickly, or as quickly as their previously used closure product/device (Table 3).

### Patient Comfort & Safety

88% of patients reported absolutely no discomfort whilst LiquiBand® Optima was used to close their wound (Table 4). Further to this in 86.5% of the cases, clinicians reported a reduced incidence of glue spillage whilst using LiquiBand® Optima (Table 5), and in 81% of the cases they stated that LiquiBand® Optima provided them with more control throughout the wound closure process (Table 6).

### Clinician Preference

In 90 of the 111 closures undertaken, it was stated that the clinician would prefer to use LiquiBand® Optima over their current wound closure method or product, 8 stated they liked LiquiBand® Optima to the same extent as their existing device, 5 were undecided, and one did not answer.

### Clinician General Comments

- “Easier to control”*
- “Other glue used to ‘trickle’ more and would have had more potential to run into ear”*
- “Very easy to apply”*
- “Better control applying glue into wound”*
- “Useful as not kept in fridge”*
- “Pre-assembly saved time and made it easier to use”*
- “Good result – patient very impressed”*

### Discussion

This multi-centre evaluation has concluded that LiquiBand® Optima is not only easy to use but also fast therefore saving the clinician valuable time in the busy A&E setting. LiquiBand® Optima provides the clinician with a high level of control and reduced likelihood of glue spillage thereby limiting previously held safety concerns related to the use of tissue adhesives.

The vast majority of patients reported pain-free application of LiquiBand® Optima during their wound closure treatment. Additionally, the vast majority of clinicians partaking in the evaluation would choose LiquiBand® Optima as their closure product of choice.

#### Does pre-assembly of LiquiBand® Optima save you time?

| Answer | No. of Responses |
|--------|------------------|
| Yes    | 98               |
| No     | 13               |

Table 2

#### Did LiquiBand® Optima bond the wound more quickly than existing product/device?

|          |    |
|----------|----|
| Yes      | 76 |
| No       | 25 |
| The same | 9  |
| Unsure   | 1  |

Table 3

#### Did the patient complain of any discomfort whilst LiquiBand® Optima was applied?

|     |    |
|-----|----|
| Yes | 13 |
| No  | 98 |

Table 4

#### Does pre-assembly reduce glue spillage?

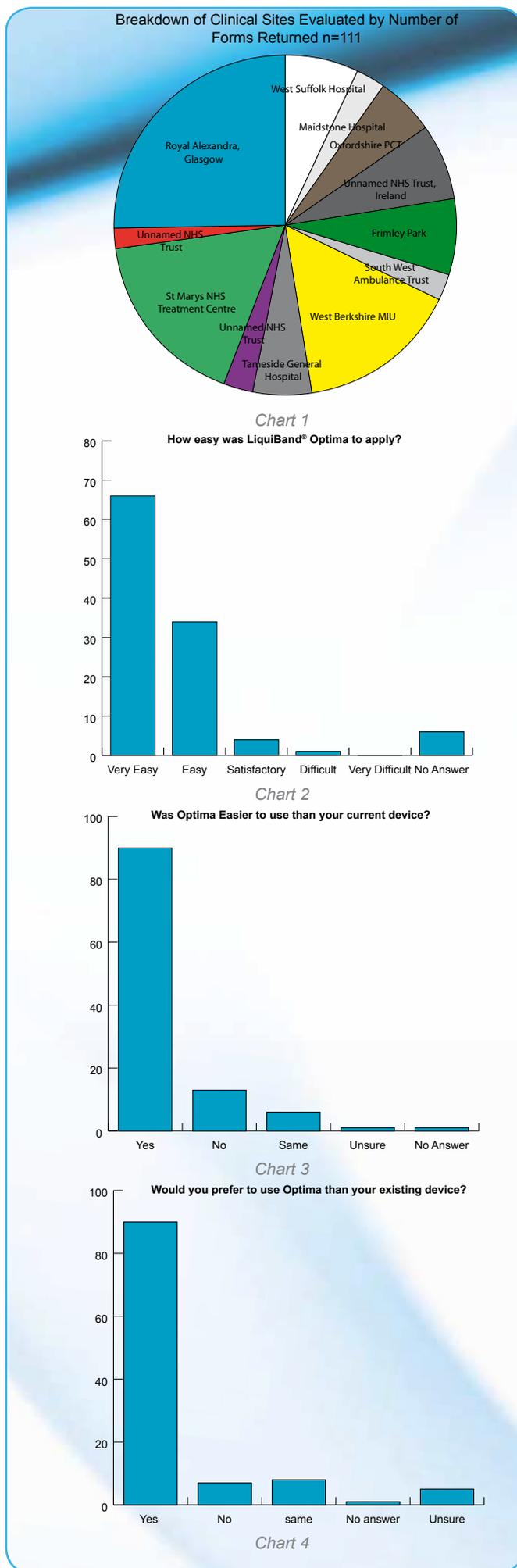
|     |    |
|-----|----|
| Yes | 96 |
| No  | 15 |

Table 5

#### Did LiquiBand® Optima give you more control?

|          |    |
|----------|----|
| Yes      | 90 |
| No       | 20 |
| The same | 1  |

Table 6



*Results compiled and published with the kind permission of;*

*Maidstone Emergency Care Centre, Kent; Royal Alexandra Hospital, Glasgow; Frimley Park Hospital, Frimley; West Suffolk Hospital, Suffolk; South West Ambulance Service, Plymouth; West Berkshire MIU; Tameside General Hospital; St Marys NHS Treatment Centre, Portsmouth and the Oxfordshire Urgent Care Service.*

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