

A MULTI-CENTRE EVALUATION OF ABSORBENT PRODUCTS FOR MEN WITH LIGHT URINARY INCONTINENCE

Hypothesis / aims of study

Men experiencing light urinary incontinence may require absorbent products and there are four designs available: three designed specifically for men (pouches – penis only; leafs - penis and scrotum; washable pant with integral pad known as a 'pantegral') and one (pad) for both men and women. However, there are no published evaluations of either the pouch or the leaf design to guide product selection.



This study aimed to:

- Evaluate all pouches and leafs available in the UK in 2003
- Compare the four available product designs
- Establish user preference for the four product designs

Study design, materials and methods

Design: randomised crossover trial; all subjects evaluated each product.

Subjects: 74 men, who were currently either using products for light urinary incontinence or had been assessed as suitable for such products.

Products: The products selected were grouped as follows:

- **Group 1: Pouches** (n=6) designed to hold penis only; all disposable
- **Group 2: Leafs** (n=6) designed to hold penis and scrotum; one washable and five disposable
- **Group 3: washable absorbent pant** (n=1) one brand selected from all brands within the design group for overall design comparison only
- **Group 4: small pad** (n=1) see group 3.

Method: product design order was randomised and individual products were randomised within their groups using Latin squares. Each product was tested for up to one week. Performance criteria (e.g. comfort) were rated in a validated *product performance questionnaire*. Wet product weights and amount of leakage were recorded in *pad leakage diaries*. 'Overall opinion' for design performance was used as the primary outcome indicator. Comparisons were made between individual products within groups 1 and 2 for overall opinion and other selected performance variables, and between the four product design groups for overall design performance.

Results

The leaf design performed best overall for both day and night use. The pouch design was the worst performing design overall especially for day use when there were specific problems with it staying in place; it performed significantly worse than both the leaf and the pad designs ($p=0.0001$).

Tena Level 2 was the best performing leaf and individual product for the key performance characteristics of leakage, fit, comfort and staying in place and the primary outcome indicator (overall opinion 97% good/okay; see table).

Comparison of the best performing products in each of the four designs for overall opinion and five key performance characteristics; * = not applicable; one brand only for each design group						
	Absorbency	Fit	Dry comfort	Wet comfort	Discrete-ness	Overall opinion
Leafs						
Tena Level 2	99	96	99	95	94	97
Pouches						
Abriman extra plus	92	75	75	68	81	61
Pantegral *						
Kylie male standard	62	95	97	54	100	54
Pad *						
Indasec midi	93	80	84	77	90	76
Figures represent the percentage of men awarding a rating of 'good' or 'okay' for each performance characteristic for day and night use combined						

The pantegral design performed significantly worse than the leaf design ($p=0.01$); although it was very comfortable to wear when dry it leaked a lot, working very well for some subjects and very badly for others.

Many products were difficult to keep in place and this is likely to have contributed to high levels of leakage. Leakage performance (as measured by pad weight and leakage diary data) deteriorated rapidly with increased urine volumes, particularly the pouch and reusable products. Most subjects demonstrated a preference for a particular product design; the leaf design was the most popular for both day and night. Qualitative data highlighted that many of the products can be difficult to use discreetly, do not stay in place and require use of a cubicle rather than a urinal in public toilets.

Interpretation of results

The four product designs evaluated have strengths and weaknesses which make them more or less suitable for individual men. For example, the pantegral which stays in place well but is leaky is very suitable for an active man with slight urinary loss. For overall performance the leaf was the best performing design and Tena Level 2 the most successful product, although others perform well for certain characteristics e.g. Molimed for Men Protect for leakage performance. The products vary in price and high price does not always equate with better performance - the high performing Tena Level is relatively low cost. The small pad has wider application as a product design suitable for men and women and this, combined with good performance and low cost make it an appropriate product for bulk purchase.

Concluding message

The results from this evaluation of four product designs suitable for men with light incontinence indicate that although the leaf design works best overall for most men other designs have strengths and all four designs should be considered in product selection. Clinicians should give men a choice of design based on their individual requirements, and need to consider level of activity, need for discreteness, and volume of leakage when selecting products. Manufacturers need to address the performance of some products to make them more acceptable to users, with particular attention to finding methods to hold products in place more securely.

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