## Introduction

As the numbers of special populations rise their unique needs become more apparent over time. In the case of those with limited mobility, simple tasks such as dressing are complicated by the usual designs of intimate wear. Women in particular must deal with such complex maneuvers as dressing in brassieres. While there is outer adaptive wear available for the wheel chair population diabetic, multiple sclerosis and post-surgical convalescing patients facing limited mobility also have needs for adaptive clothing items.

Fresh Comfort™ aims to fill this niche by offering undergarments that are both more comfortable and simple to use under conditions of limited mobility than the current market standard undergarments. This research is important for promoting quality of life in women who have special needs for undergarments that are easy to put on and remove and that are more protective of skin than traditional undergarments.

## Objectives

The purpose of this study is to determine satisfaction of patients who consent to a trial wearing of Fresh Comfort™ undergarments. The investigators will evaluate the overall comfort and function of five (5) styles based on ratings of the test wearers after wearing and washing garments five times each.

The objectives of this study are to wear test five (5) Fresh Comfort™ designs of adaptive intimate apparel with female end-users in size small, medium, large, extra-large and 2X large who are currently going through physical therapy and validate the five (5) Embrace Collection by Fresh Comfort™ design styles for fit, comfort and performance.

The Embrace Collection by Fresh Comfort, Inc. includes five designs that will be tested including Cross-Cross Bra (not pictured), Zipper Front Closure Bra, Easy-Open Front Closure Bra, Boxer and Brief.

## The Fresh Comfort™ Difference

Fresh Comfort products are made using the latest technology in knit fabrics. They have hidden seams as well as seamless technology with special finishes to keep the wearer’s skin dry and comfortable all day long. The product is easy to put on and take off. It is specially made to accommodate the end user with limited mobility.

Fresh Comfort undergarments were developed by Maria E Valencia, founder and President of Fresh Comfort, Inc. located in Frisco, Texas. Maria brings 18 years of experience in intimate apparel design. The product was developed based on personal experience in dealing with diabetic, multiple sclerosis and post-surgical convalescing family members. Few adaptive intimate apparel clothing products are offered for the convalescent patient using new technologies with special finishes.

The Fresh Comfort undergarments differ from traditional undergarments (standard care) in various ways. For instance, skin irritation is expected to be less with the Sorbet™ yarns found in the fabric used in Fresh Comfort garments more than traditional fabrics. The texture is softer than most refined fabric yarns. Sorbet™ fabric yarns have moisture management properties and anti-bacterial finish which will maintain the skin dry.

Differences between Fresh Comfort garments and traditional garments are illustrated in the following table:

<table>
<thead>
<tr>
<th>Comparison of Fresh Comfort and Traditional Undergarments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh Comfort undergarment</td>
</tr>
<tr>
<td>Fabric contains 67% bamboo resulting in a “green” product that is resistant to deterioration through many washings.</td>
</tr>
<tr>
<td>Bamboo has inherent antibacterial characteristics that does</td>
</tr>
<tr>
<td>Front Velcro closures for brassieres are adaptive for individuals with limited hand mobility</td>
</tr>
<tr>
<td>Seamless construction reduces friction and skin breakdown</td>
</tr>
</tbody>
</table>

## Materials and Methods

Thirty-two individuals who are phenotypically female and both literate and fluent in English will be invited to participate.

Jennifer Williams will ask her own female patients and will ask other OT and PT staff in the Mahe Center to ask their female OT patients if they would like to participate in a wear test study for Fresh Comfort, Inc. No advertisements will be used. No payments will be offered to subjects.

Subjects will share her occupational therapy appointments with her therapist who will make arrangements for Ms. Valencia to visit the subject at an appointment convenient for subject and researcher. Ms. Valencia will measure patients who agree to participate in the wear test study before or after their OT appointment at Texas Health Resources Mabue Center.

Ms. Valencia will measure each subject’s bust, waist, and thighs using a tape measure to assess undergarment size needed. She will instruct subjects regarding how to put on the garments and care for them as well as assess the fit of each garment on the test wearer to insure it is the correct fit.

Ms. Valencia will review the evaluation tool with the participant to ensure they understand how to fill out the questionnaire for each garment.

Each subject will wear the garments for two weeks, washing the garments between wearings. One of the researchers will follow-up with a friendly call within the first week to remind test wearers to fill out the questionnaire and ask if the participants have any questions.

Test wearers will bring in their filled-out questionnaires at the end of their two-three weeks when they come back for an OT appointment.

The following table presents a timeline for each subject for research procedures:

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Visit One</th>
<th>2 weeks home wear</th>
<th>Visit Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fill the garments to be worn before or after OT.  Instructions about how to use and care for garments received.  Complete effects parts of garment effects form. Complete evaluation form.</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Wear and wash garments</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follow-up phone call</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

## Future Implications

Completion of this study will better inform the design of future products. In future, both undergarments and over-garments will become better tailored to the needs of specific patient populations. This study will help us understand the specific needs for undergarments among the mobility impaired female population.

## Results

The study is open. We are currently enrolling subjects and collecting data.

Maria Valencia and Jennifer Willson, investigators

## References


## Acknowledgements

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Maria Valencia
Jennifer Wilson
Patricia Newcomb