

FashionABLE

2025

A GUIDE FOR PEOPLE LIVING WITH A
SPINAL CORD INJURY, CAREGIVERS,
AND MEDICAL PRACTITIONERS.



CONTENTS

- 4 Opening Letters
- 8 Introduction
- 10 Our Team
- 12 Adaptive Fashion
- 14 Purpose of this Guide
- 16 Our Approach
- 18 Priorities for Adaptive Clothing
- 48 Ready-to-Wear Clothes
- 62 Featured Designs
- 68 Resources
- 70 References
- 71 Appendix
- 72 Acknowledgements



OPEN STYLE LAB (OSL)
CRAIG H. NEILSEN FOUNDATION (CNF)
THE UNIVERSITY OF BRITISH COLUMBIA (UBC)
VANCOUVER COASTAL HEALTH RESEARCH INSTITUTE (VCHRI)
INTERNATIONAL COLLABORATION ON REPAIR DISCOVERIES (ICORD)

Copyright © Open Style Lab ™ 2025
Design and Illustration / Ilia Giokari
Printing / DWRI Letterpress
Typeface / Circular Font Family

A The FashionABLE models.



Teri Thorson

Before I acquired my spinal cord injury (SCI) in 1996, I was a fashion model, dancer and worked in the software industry. How I looked and presented myself was very important to me.

After my SCI, I remember specifically being told I should be wearing track pants and runners for comfort and ease of dressing. I had never owned a pair in my life and refused to conform to what I was told I “should” wear. But it was so challenging finding clothing that was fashionable and functional for me as a woman with complete cervical SCI (C6, tetraplegia), no hand function, doing intermittent catheterization, and trying to be as independent as I could be.

Over the years I was able to find off the rack/ ready-to-wear clothing that was easy to put on and looked nice. Being 5’11” though it was impossible to find pants that were long enough and fit the width of my legs with the atrophy. So eventually, I had to design my own clothing that worked for my needs.

This booklet culminates all the ideas, tips and tricks I learned from my peers and myself over the years. I hope it will inspire ideas in you that can support or bring out your sense of style and fashion.

Teri

Teri Thorson

- A** Teri in an elegant evening tulle skirt and sleeveless bodice.
B Chloë in her studio.



Chloë Angus

Dear Reader,

In 2015, my life changed forever; if you are reading this yours probably did too. I was a successful fashion designer, living my dream, when I suddenly found myself paralyzed. Overnight, I went from creating exquisite ball gowns to wearing hospital gowns. My days of strutting down runways and walking red carpets were replaced by hospital corridors and rehab rooms. I lost more than just the ability to walk; I lost a part of my identity, the vibrant self who lived and breathed fashion.

For months, I struggled to adapt. Dressing, once a joy, became a daunting challenge. My wardrobe—an extension of who I was—seemed to turn against me. Clothes that once empowered me now felt impractical and unflattering. Each pair of cherished high heels, each memory of the shows they walked, became a painful reminder of what I’d lost. I avoided mirrors, unable to recognize the person staring back.

The journey to reclaim my sense of self was slow and often painful. Finding adaptive or adaptable clothing that was both functional and fashionable felt nearly impossible. The options I came across made me feel disconnected from my peers and more aligned with my grandmother’s generation. Even as a fashion designer, someone deeply familiar with clothing’s transformative power, I felt lost. I can only imagine how overwhelming it must be for those without this background.

But fashion became my lifeline. Piece by piece, I rebuilt my wardrobe, discovering what worked for my new body and still expressed my style. Each outfit I wore that made me feel confident and empowered helped me reconnect with myself. Fashion wasn’t just about looking good; it was about reclaiming my identity and restoring my confidence.

Your journey might look different, but my hope for you is the same: to find what makes you feel good. Adaptive fashion isn’t about changing your style; it’s about embracing it in a way that works for you now.

Fashion can be a powerful tool for healing. It was for me, and I believe it can be for you too. One perfect piece at a time, you can rediscover your style and, in doing so, rediscover yourself.

With love and style,

Chloë

Chloë Angus



Dr. Andrei Krassioukov

As a physiatrist, I have always been passionate about rehabilitation and medical care for individuals with a SCI and other neurological conditions. Recently, however, I found myself gravitating towards an aspect of my patients' lives that not many healthcare professionals might have fully considered: fashion.

With 45 years of experience in medicine and working closely with individuals with disabilities, I have come to realize that fashion is not just about aesthetics; it is also about empowerment and practicality. While people with full hand and leg function may focus on factors like style, fit, and comfort when purchasing garments, they may not initially think about ease of dressing and undressing, particularly for bowel and bladder care. For individuals with reduced hand function and mobility, however, these practical considerations are crucial.

Many of my patients expressed frustration in finding clothing that met their needs. This inspired them to create beautiful and functional pieces that not only addressed their specific requirements but also helped them feel more confident, comfortable, and self-assured in their daily lives. They were my inspiration for FashionABLE.

FashionABLE is an innovative project designed to elevate the standards of adaptive clothing. When our international team of physicians, occupational and physical therapists, fashion designers, and individuals with a SCI created this project, we envisioned that adaptive clothing must bridge the gap between style and practicality, elegance and comfort, and be designed with the needs of individuals with disabilities in mind. FashionABLE aims to provide a comprehensive guide to adaptive clothing that meets not only functional needs,

but also aligns with contemporary fashion trends. It is our goal to promote greater inclusion in self-expression and empowerment of individuals with disabilities to feel stylish and comfortable in their daily lives.

On behalf of our team, I would like to extend our heartfelt gratitude to everyone who supported our work on FashionABLE. We are deeply appreciative of the grant provided by the Craig H. Nielsen Foundation, which has been instrumental in bringing our vision to life. We also want to acknowledge and thank WorkSafeBC for their generous support of one of our contributing graduate students. Finally, we sincerely appreciate the many individuals with a SCI and healthcare practitioners around the world who participated in our surveys. Your invaluable feedback and insights were essential in making FashionABLE a more inclusive and impactful project.

Dr. K

Prof. A. Krassioukov
Physician and scientist, Vancouver, BC,
Canada



A Dr. Krassioukov in his office.

“I don’t think you change very much when you’re injured. If you were a trendy dresser before, be brave, and keep looking for your clothing -- you still will be. But if you were a [box store] shopper before, and you’re comfortable, with it, that’s who you’ll be!”

Lynn, Vancouver, BC, Canada

INTRODUCTION

FashionABLE is an adaptive clothing guide containing clothing hacks, tips and tricks that offer diverse clothing options to people living with a SCI.

The guide was conceived and crafted collaboratively by our interdisciplinary team of people living with a SCI, healthcare professionals with expertise in SCI, and designers well-versed in the art of inclusive and accessible design. FashionABLE aims to enhance independence, improve quality of life, and bring confidence and self-expression through adaptive clothing for the SCI community alongside the support from their caregivers and healthcare professionals. The development of the FashionABLE guide in print and virtual formats was supported by a grant from the Craig H. Neilsen Foundation to Principal Investigator Dr. Andrei Krassioukov (ICORD, UBC, Vancouver, Canada) and Co-Investigator Grace Jun (Open Style Lab, NY, USA).

DISCLAIMERS

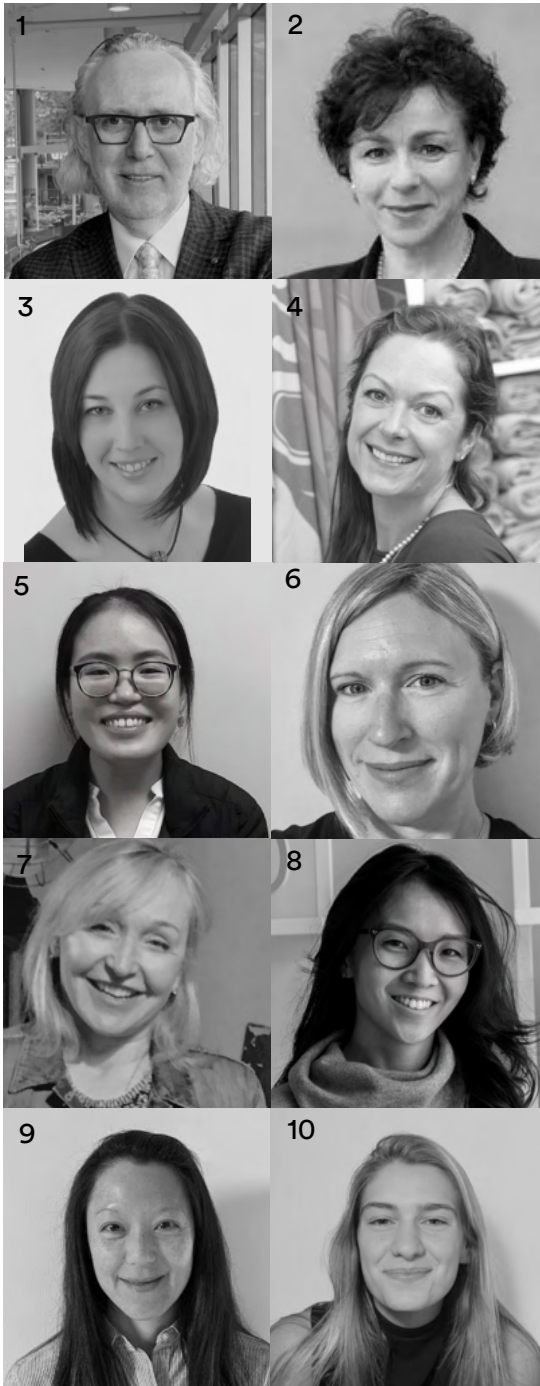
FashionABLE does not intend to promote the sale of any specific clothing article or clothing line. This information reflects the opinions of the authors and not necessarily those of other staff, management, and physicians of Vancouver Coastal Health.

This guide represents only a fraction of the diversity of the SCI community in injury level and function.

A Long skirt for a special evening, but not too long for wheeling.



OUR TEAM



Vancouver

International Collaboration on Repair Discoveries (ICORD), a research centre of the University of British Columbia (UBC). ICORD is focused on the interdisciplinary study of SCI to realize better health outcomes and improved quality of life for people living with a SCI.

1 Dr. Andrei Krassioukov

Dr. Andrei Krassioukov is a Professor at the UBC Department of Medicine, and Associate Director at ICORD. Dr. Krassioukov also holds the Patrick Reid Endowed Chair in Spinal Cord Rehabilitation Research at UBC and serves as a staff physician at the GF Strong Rehabilitation Centre, in Vancouver, Canada. It is his goal, through innovative approaches in education and research, to make SCI preventable, livable, and curable.

2 Dr. Susan Forwell

Dr. Susan Forwell is a Professor at the UBC Department of Occupational Science and Occupational Therapy and Research Associate with the UBC MS/NMO clinic, and ICORD. As a dedicated Canadian occupational therapist and scientist, Dr. Forwell has engaged in research that has facilitated credible programs for people with chronic conditions – particularly multiple sclerosis, SCI, and brain injury – so that they can participate in their life roles.

3 Teri Thorson

Teri Thorson has a passion for fashion as a former model throughout her years before and after sustaining a SCI at the cervical level. She created her own line of clothing in 2007 but now consults on other fashion projects especially when it comes to fashion meeting function.

4 Chloë Angus

Chloë Angus is a fashion designer, entrepreneur, advocate, and paraplegic. She wears many hats, but fashion is her first love. Born on the Sunshine Coast of BC, Chloë has been designing clothes since she was a young girl. Now, Chloë is creating designs that are as innovative as they are classic, beautiful silhouettes that accentuate all body shapes without compromising her inherent eye for style and feel for comfort.

5 Anh-Duong (Jennifer) Phan

Jennifer Phan is a research assistant at the Krassioukov Lab at ICORD where she facilitates the recruitment, dissemination, and knowledge translation of multiple studies. She has a special interest in the psychosocial aspects of SCI rehabilitation.

6 Cynthia Morin

Cynthia Morin is a clinical occupational therapist and educator in the SCI program at the GF Strong Rehabilitation Centre in Vancouver, Canada. She has worked with people who have a SCI and spinal cord impairments throughout the province of British Columbia for over 15 years. Cynthia has an interest in SCI research, and has assisted Dr. Krassioukov in some of his research projects over the years.

7 Shannon Sproule

Shannon Sproule is a physical therapist with expertise in SCI rehabilitation. Her service to the community spans from 1984 to the present day. She started work at the GF Strong Rehabilitation Centre in Vancouver, Canada in 1998 in the area of neurological rehabilitation. She has also helped develop SCI recovery approaches as a clinician and research support specialist.

New York

Open Style Lab (OSL) is a 501c3 national design award winning non-profit based in New York working to make style accessible and inclusive for people of all abilities, regardless of cognitive or physical disability. OSL was initiated at the Massachusetts Institute of Technology in 2015.

8 Grace Jun

Grace Jun is an associate professor at the University of Georgia where her research and teaching focus on design and disability processes. She is also a founding member and now President of the Board at OSL. Grace is the author of "Fashion, Disability & Co-design," a recent publication with Bloomsbury Publishing UK.

9 Staci Chan

Staci Chan is an occupational therapist at a Level I trauma center where she collaborates with patients and guides them towards greater independence in their meaningful roles. She engages in design research and community-based workshops addressing inclusive design and adaptive fashion with OSL.

10 Ilia Giokari

Ilia Giokari is a designer specializing in human-centered design and accessibility. She creates illustrations, and designs social media and journal content for OSL.

ADAPTIVE FASHION



Clothing is one of our oldest forms of self-expression. Every day, what we choose to wear reflects our personality and gives hints of who we are. It’s also practical - keeping us warm, dry, and revealing only what we are comfortable showing. Our clothes form a part of our identity.

Like all apparel, adaptive clothing is designed to fulfill social and functional needs. Some needs are universal: presenting with confidence at a job interview or dressing to impress for a first date. However, there are other considerations: putting on and taking off a clothing item with limited hand mobility, feeling comfortable sitting and moving in a wheelchair, not having to constantly worry about pressure injuries, or co-dressing with another person.

Adaptive fashion is a visual language with its own style, form, and features (Jun, 2024). Popular adaptive features include relaxed silhouettes for ease of putting on and taking off, strategic placement of fasteners, and use of sensory-friendly materials. Velcro shirt closures, one-handed zippers for easier access to a leg or prosthetic, or seamless and tagless designs are just a few examples of how clothing can be made to fit the person.

Clothing is ubiquitous, and the fashion and garment industry is among the fastest growing sector in modern times. Yet, people with disabilities - an estimated 1.3 billion people worldwide (World Health Organization, 2023) -- are rarely offered the same range and quality of options when it comes to adaptive clothing. Adaptive pieces are often limited, expensive, and seldom see the spotlights of runways. The ability to choose and wear clothing that is functional, appropriate, and attractive is important to all, perhaps even more so to individuals with disabilities.

A Adaptive clothing is easy to wear and more comfortable.

“The first thing that people see is the wheelchair. You want to be seen as an individual. You want to be seen as you. You want to be seen as the woman that you are. To me, it’s really important that I have a sense of self and a sense of style.”

Kirsten, Vancouver, BC, Canada

PURPOSE OF THIS GUIDE

During rehabilitation, considerable attention is dedicated to establishing independence with respect to mobility, eating, bladder and/or bowel care. However, much less time and effort tend to be devoted to dressing - how to dress and what to wear.

Less than half of the persons living with a SCI surveyed in our study reported satisfaction with the way they get dressed (40%) and what their clothes enabled them to do (46.7%). Participants also reported a lack of education on dressing and dressing options during the rehabilitation process.

Participants in our study instead sought resources such as websites, referrals, and books to learn about adaptive clothing. There is a clear need for more open discussions with healthcare professionals on this topic. Accessible and reliable resources may help kickstart these important conversations.

To address this gap, we envision FashionABLE as an online, open-source, first-step for persons living with a SCI and their care teams to find recommendations and inspiration for adaptive clothing. An example: A tip on the convenience of Velcro (picture A) and other adaptive fastening mechanisms (pgs. 18-19) in the place of traditional buttons, can be quite helpful to people living with a SCI that do not have full hand function.

A Velcro fastening can support independent dressing.
B Supportive dressing can lead to a sense of “can-do.”



“[It is] disconcerting that there isn’t the advice available from the medical community to those who are disabled... People living with a SCI can have better quality of care, be more comfortable, and be more productive.”

Jin, person living with a SCI, Vancouver, BC, Canada



OUR APPROACH

In creating FashionABLE, we asked two key questions:

1) What do we know about adaptive clothing for persons living with a SCI?

To answer this question, we conducted a review of the existing literature and website content related to clothing for persons living with a SCI. We identified:

- A high demand for fashionable clothing; however, finding the right clothing was a major challenge.
- A strong desire for contemporary designs.
- A need for dressing solutions from persons living with a SCI and SCI experts.
- A significant emotional impact of clothes on self-confidence, and on how people show-up in public spaces.

2) What do persons living with a SCI and healthcare professionals want and need when it comes to adaptive clothing?

We surveyed and interviewed persons living with a SCI and healthcare professionals to understand their current practices and identify any perceived gaps in adaptive clothing. Highlighted gaps include:

- Ease of putting on and taking off as “important” or “most important” (87%), followed by comfort of body movement (80%), and style (78%) for clothing choices.
- See other anonymous quotes taken from the interviews throughout this resource.

Throughout our research process, we facilitated multiple roundtable discussions with our team of consultants living with a SCI, fashion designers, researchers, and clinicians with expertise in SCI.

More information regarding our approach can be found in the Appendix (page 71).

- A** Self-expression in unique designs relates to well-being.
B Styles that reflect individuals' choices and suit different occasions.



A



B

PRIORITIES FOR ADAPTIVE CLOTHING

Priority #1

Ease of Putting On & Taking Off

When choosing or designing clothing to meet disability needs, several priorities should be considered. One crucial factor is ensuring that designs make it easy to put on and take off, which directly impacts the time required to do so, and minimizes frustration and fatigue. Design features play a significant role in determining accessibility, including context, features, and opportunities for improvement (Jun, 2024).

Our survey found buttons (74%), zippers (59%), and laces (47%) to be the most challenging features for persons living with a SCI. On the other hand, Velcro and elastics were rated as the least challenging.

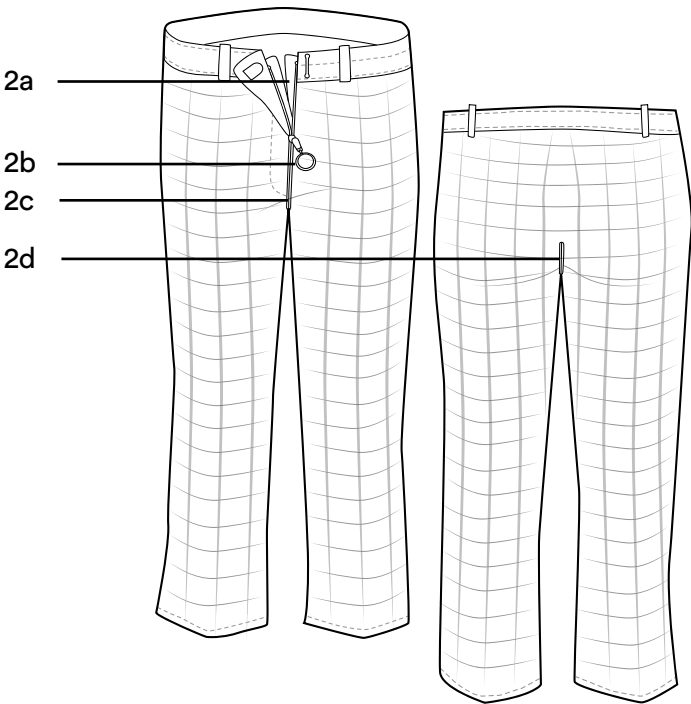
- A Magnets at the shoulders to fasten tops.
- B Bigger buttons are easier to handle.
- C Velcro can be an alternative to buttons.
- D Velcro can make it easier to fasten shoes.

1 Use of Magnets



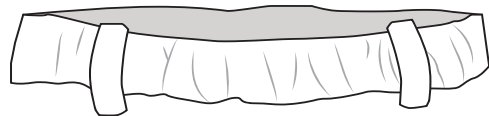
2 Use of Zippers

- a. Extra fabric to protect skin integrity when zipper is pulled up
- b. Zipper with keyring or loops of thin fabric or ribbon, etc. for ease of pulling-up
- c. Zipper on the front fly or in the inseam of the pant leg for catheter access
- d. Long zipper that reaches the back to allow room for intermittent catheterization



3 Waistbands

- a. Wider waistbands: elastic, larger-than-usual waistband
- b. Thicker and wider belt loops



Lived experience tip: Get your belt loops reinforced; they can be very useful when pulling up.

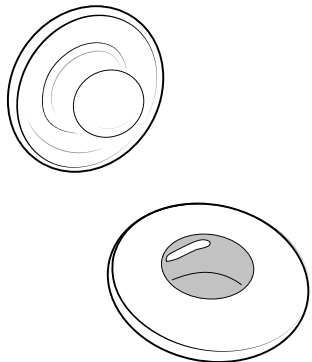
4 Use of Velcro

- a. Blouse with Velcro fastening (see picture C)
- b. Velcro in place of laces (see picture D)

5 Use of Bigger Buttons

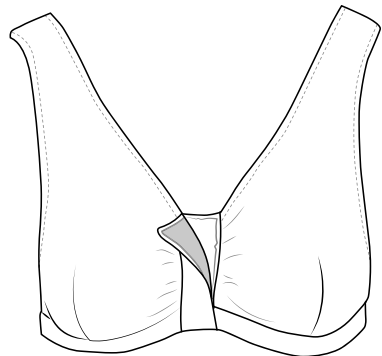


6 Use of Snaps



7 Use of Hooks and Clasps

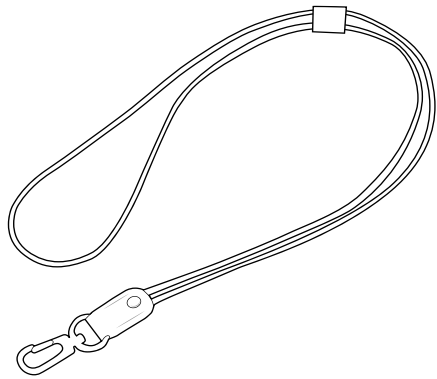
- a. Hooks, or clasps on the waistband instead of a button for fastening
- b. Hooks, loops, or Velcro for front closure



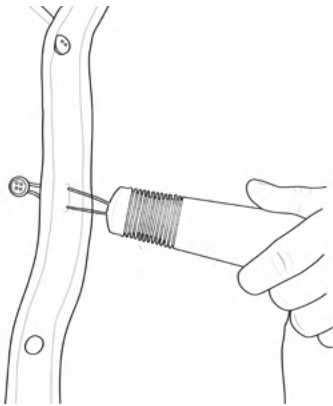
8 Use of Dressing Aids

Assistive dressing aids can make dressing easier, especially for persons with reduced trunk control, limb mobility, or hand function. Here are three examples with a description on how to use them:

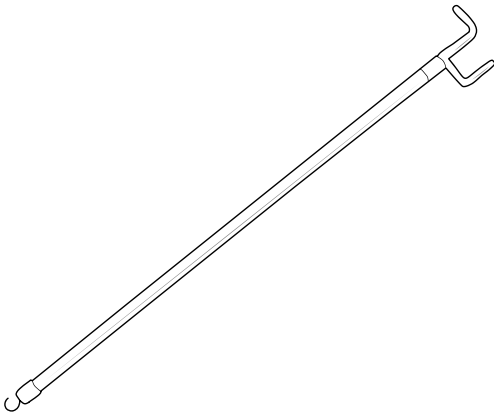
- 1. Zipper pulls
 - a. Attach the zipper pull to the zipper tab
 - b. To zip up or down, simply hold the pull and guide the zipper



- 2. Button hooks
 - a. Slide the wire loop of the button hook through the buttonhole
 - b. Hook the loop around the button
 - c. Gently pull the button through the hole by pulling the handle of the button hook
 - d. Hook at the end can be used for zippers



- 3. Dressing Sticks
 - a. Putting on clothes: Use the hook end of the stick to grab loops, sleeves, or collars. For example, hook the dressing stick into the neck of a shirt to guide the garment over head
 - b. Taking off clothes: Hook the stick under the garment (like the sleeve or the back of a shirt) to pull it off
 - c. Reaching clothes on hangers: Use to reach hanging items



A An easy to get-on-off top with an arms-in-out option for temperature regulation.

“It comes down to the basic question: Can I get it on? Can I get it off? What I buy, what I get, either I can get it on or I can’t. It’s really that simple.”

Maria, person with SCI lived experience, Vancouver, BC, Canada



Caregiver Assisted Dressing Considerations

Self-advocacy in dressing

We may all need assistance at some point in our lives, and it can vary depending on the level of injury. Ultimately, how an individual with a SCI defines their dressing independence and the assistance they receive is their choice. To promote quality of life, individuals should be empowered to direct their care (Hammell, 2004). Communication with one’s support system including, family, friends, or clinicians amongst others helps ensure that an individual’s preferences are at the forefront.

- Promoting an individual’s self-advocacy in their dressing routine may enable greater positive caregiver-assisted dressing experiences. For example, an individual with a SCI may self-advocate their preferences, wants, and needs with their caregiver to reflect their sense of self (Hoffman, 2008).
- When an individual communicates their dressing preferences to their caregiver, it may also enhance one’s self-efficacy through style and may promote their independence in dressing routines. For example, individuals may let their caregivers know to iron out wrinkles and check seams before dressing to prevent pressure injuries.

Specialized techniques and safety

In addition to psychosocial considerations, adaptive techniques that individuals use during independent dressing may also be applicable to caregiver assisted dressing.

A Dressed comfortably and in style, choosing makeup can bring a smile.

For instance, clothing with loops or reinforced belt loops may facilitate improved grasp and ease in pulling pants up and over an individual’s hips (Cisler, Gardner, & Fox, 2014).

- The durability and materiality of these loops may promote caregivers’ ease in gripping while enabling safety among people with a SCI who may have reduced sensation. Loops help ensure that pants are properly up and over one’s hips to prevent potential risks of pressure injury from excess fabric that folds and is sat on.
- Also, loops may help persons living with a SCI and caregivers adjust their clothes to prevent areas of tightness. Ensuring that an individual’s clothes are not restrictive or too tight may also help reduce the risk of autonomic dysreflexia (an unpredictable and sudden elevation of blood pressure) that can be life threatening (Krassioukov et al., 2021).



Lower extremity dressing in bed

1

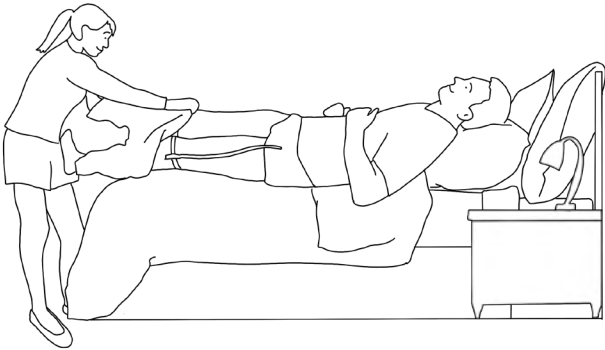
The person is in a supine position in bed with the caregiver on one side of the bed (proper ergonomics for the caregiver is to have the person’s bed at the level of the caregiver’s waist whenever possible). The caregiver should be trained in back protection techniques, such as adjusted bed height, safe lifting techniques, and have assistance if needed. If the person has a high degree of spasticiy, the person may need to take medications at least 30 minutes in advance, and possibly have some range of motion/stretching exercises performed with the assistance of the caregiver prior to dressing.



Lived experience tip: Loose fitted clothes with stretch are easier to put on.

3

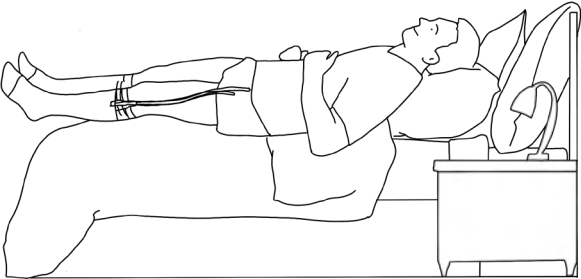
Put the person’s feet into underwear and/or pant leg one leg at a time, bringing clothing up to knee/ mid thigh area.



Person is lying supine with pants on both legs up to the knee or mid thigh, not twisted.

2

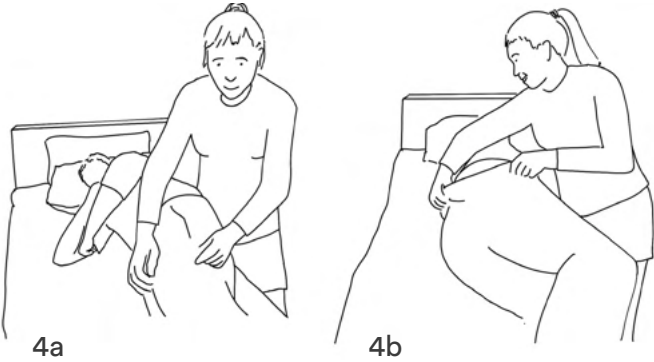
Attach any drainage devices to the person (i.e., leg bag, suprapubic catheter tubing, foley catheter tubing, colostomy bags). Put on any under clothing garments (i.e., abdominal binder, compression stockings).



Person supine and with stockings on and catheter bag attached.

4

Turn person onto one side and pull underwear and/ or pants up to their waist on the opposite side (see 4a). Roll the person back to a supine position and repeat the movement for the other side (see 4b).



Person lying on side of caregiver pulling pants up to waist level and over buttocks on the other side.

5

Roll person into a supine position to straighten the pants and fasten any closures (i.e., zippers, Velcro, buttons).

7

Final caregiver adjustments can help with comfort and a feel-better look.



Upper extremity dressing in the wheelchair

The caregiver needs to be aware of person's shoulder and upper limb range of motion (ROM).

There are typically three scenarios:

- Scenario 1: Full shoulder ROM bilaterally (both shoulders)
- Scenario 2: Limited shoulder ROM on one side
- Scenario 3: Restricted shoulder ROM bilaterally (both shoulders)

6

Lift up one leg and put on shoe, then repeat on the other leg. Alternatively, the person's shoes can be put on when they are sitting in their wheelchair. Follow the same procedure for putting on a skirt or shorts.

Note: Caregiver should straighten out any pant leg, skirt, or waist band that is twisted.



Note: Caregiver should straighten out any tops that are twisted.

Scenario 1:
Full shoulder range of motion bilaterally (both shoulders)

1

Caregiver puts the person's one arm through the sleeve of the shirt, sweater, or jacket, and brings the sleeve above the elbow.



3

The caregiver then puts the person's other arm through the other sleeve.



Note: If the person is not able to lean forward independently, then the caregiver should position themselves in front of the person, and have the person lean against them to pull the clothing item behind the person's back.

2

The person flexes their neck and the caregiver puts the top over the person's head.



4

The person leans forward and the caregiver then pulls the main part of the clothing item down the person's front and back.

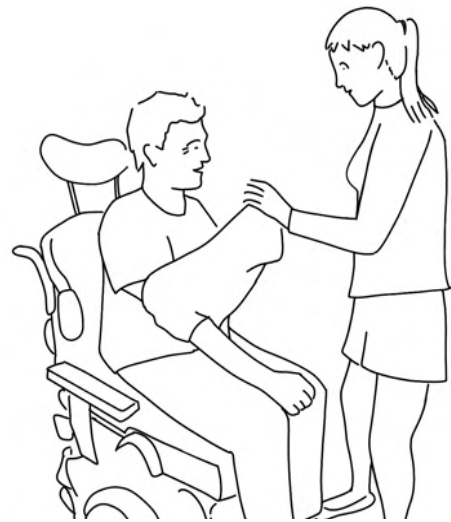


Scenario 2:

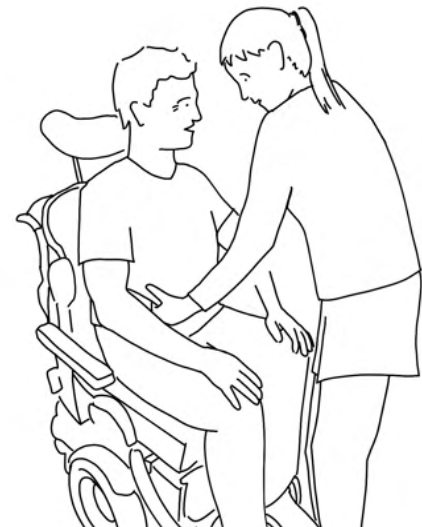
Limited shoulder range of motion on one side

1

Caregiver puts the person's arm with reduced range of motion first through the sleeve of the shirt, sweater, or jacket, and brings the sleeve above the elbow (and undress last).

**3**

The person flexes their neck and the caregiver puts the top over the person's head.

**2**

The caregiver then puts the person's other arm through the other sleeve.

**4**

The person leans forward and the caregiver then pulls the main part of the clothing item down the person's front and back.



Note: If the person is not able to lean forward independently, then the caregiver should position themselves in front of the person, and have the person lean against them to pull the clothing item behind the person's back.

Scenario 3:

Limited shoulder range of motion bilaterally (both shoulders)

1

Caregiver puts the person's one arm through one sleeve of the shirt, sweater, or jacket and brings the sleeve above the elbow. Then, the same is done for the other arm with the other sleeve.

**3**

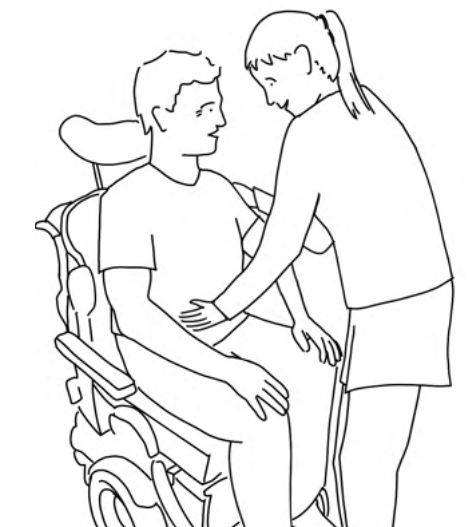
The caregiver then pulls the main part of the clothing item down the person's front and back.

**2**

The person flexes their neck and the caregiver puts the top over the person's head.

**4**

Final caregiver adjustments can help with comfort and a feel-better look.



Garment Type

In addition, considering various ways a person may put on or take off a particular article of clothing may promote independence. For example, one individual with a SCI may sit up to put on a button-up shirt like a jacket where their caregiver may support the person's upper body and chest for balance and functional reach. Meanwhile, another person with a SCI may put on a button-up shirt as an overhead shirt with a few buttons pre-fastened (Thomas Jefferson University Hospital and Magee Rehabilitation, 2009). Therefore, various methods of putting on and taking off different articles of clothing should be tested to best promote a person's participation, self-efficacy, range of motion, manipulation of fasteners, balance and safety, that can also work to reduce caregiver involvement.

Another way to facilitate more independence in dressing routines is through examining the impact of design elements and garment construction, which will be described next.

- A Garment accessorised with an easy to fasten large button.
- B Wrap-design that fastens with magnets at each shoulder.



A



B

Priority #2

Comfort & Movement

“The one thing that is great with my pants is they just slide like butter just right on the board. It’s a quick transfer; it doesn’t slow me down.”

Bruno, person with SCI lived experience, Vancouver, BC, Canada

1 Fabrics & Materials

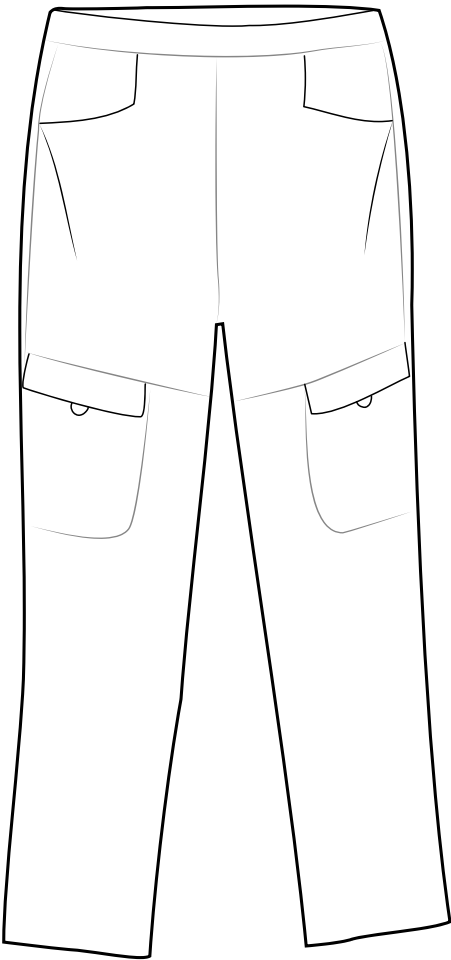
The absorbency, breathability, hand (feel), flexibility, and weight of fabrics are also essential considerations, as they contribute to the wearer’s comfort. Factors to consider for selection include (Jun, 2024):

- a. Durability: Synthetic fibers like polyester tend to be more durable but less breathable
- b. Easy care: Machine washable and dryable is an essential and affordable choice for most items in a wardrobe
- c. Ease of dressing: Slippery materials, stretchy, lightweight, minimal static electricity like satin or silk might be easier to put on or take off
- d. Skin irritation: To avoid skin irritation, opt for hypoallergenic materials such as cotton, bamboo, cashmere, silk, modal, and linen knit

2 Pockets

Pockets should be removed from the back to avoid skin irritation and reduce the risk of developing pressure injuries.

Similarly, a thorough review and removal of seams, labels, tags, trims in any garment will help protect the skin.

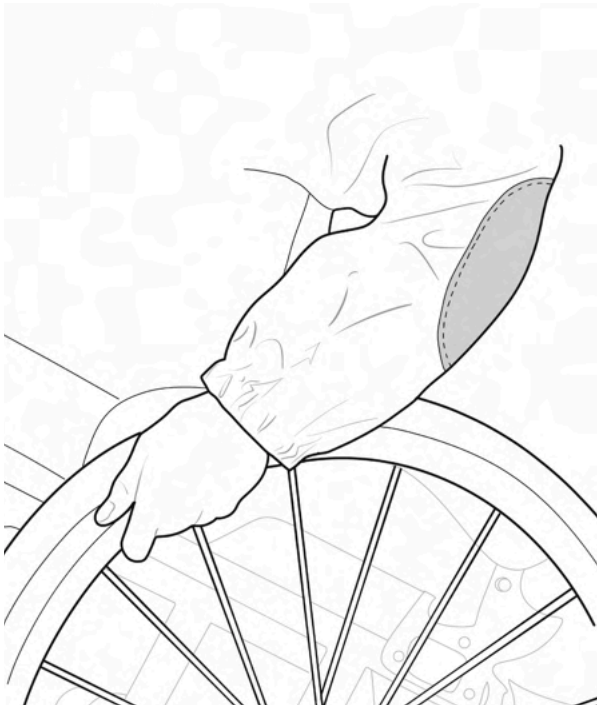


A Pants with accessible front pockets.

3 Tops Modifications

Sleeves and other high friction points (e.g., elbows) of a top can become frayed and torn with wheeling.

- a. ¾ length sleeves and/or cuffed sleeves are recommended
- b. To provide additional protection, fabric patches for cuffs/elbows made of leather, suede, or canvas can be added



B Reinforced elbow -a high friction point.

4 Bottoms Modifications

Pants can feel uncomfortable for individuals who remain seated for long periods of time, for instance, due to tightness around the waist, back of the pants sliding down, or pant legs riding up.

- a. Size up or buy clothes for 'taller' persons
- b. Tailor pants so that they that are low in the front, high in the back
- c. Remove back pockets to avoid irritation or pressure sores



Lived experience tip: Look at the leg length and inseam. Typically pants made for taller people are longer and help accommodate a seated position.



C Lower front and a higher back pants add comfort.



Priority #3

Aesthetics & Style

In addition to the functional aspects described in priorities 1 and 2, aesthetics and style are also important considerations. Characteristics like color, texture, and silhouette influence not only the wearer's ability to participate socially, but they also serve as a form of self-expression. Both functional and aesthetic elements should be carefully balanced when designing accessible clothing.

Shoes and accessories like gloves, hats, scarves, bags, and jewelry are also important factors to consider and help to elevate your style.

“If you’re a fashion designer, have somebody in a wheelchair come and sit with you and move around in their wheelchair – only then you can see what it takes.”

Kofi, Vancouver, BC, Canada

A Personalized spokes and air cap make a colorful statement.

B Hat, gloves, and personalized wheels come together in fashionable style.



A



B

1 Gloves

Gloves can add a pop of colour to your outfit while also protecting your hands when wheeling. Features to keep in mind include fit, padding, and durability. Some might also be interested in touch screen capable or absorbent materials.

Stylish and affordable leather gloves can be found at vintage shops. If you are thinking of buying new ones, search for equestrian or golf gloves.



Lived experience tip: There are fashionable and functional gloves specifically designed for wheelchair users that provide enhanced grip, comfort, and style. Keep your gardening gloves for gardening!

2 Shoes

People who use wheelchairs often experience swelling in their lower legs and feet, which make shoes uncomfortable to wear for extended periods. Consider shopping at plus size stores that can accommodate wider ankles and feet.

- A** Colorful gloves with added grip and comfort.
- B** Wide shoes (comfort) with a discreet zipper around the laces (style & function).



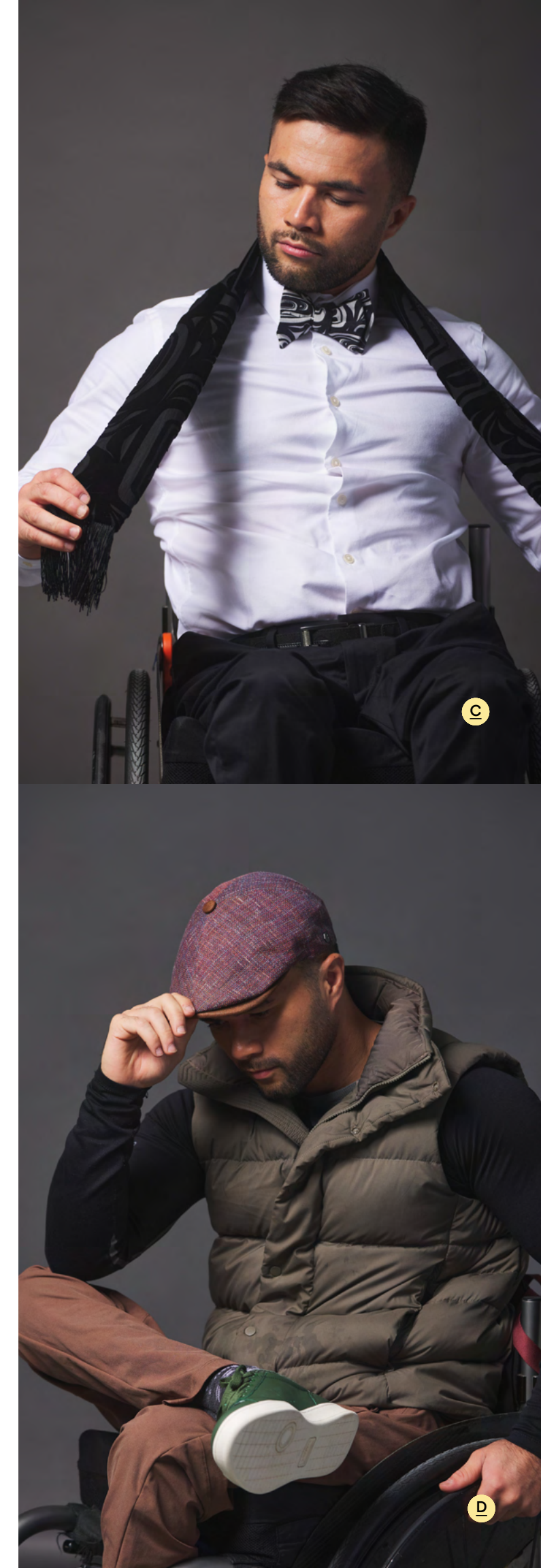
3 Belts

Many steer clear of belts because they are often tight and uncomfortable, especially in a seated position. However, elastic belts can be a suitable alternative - stretchy and comfortable, while still functional and fashionable. It is important to note that belts and other restrictive clothing must be loosened immediately at the first signs of autonomic dysreflexia.

4 Hats

Another easy way to accessorize is with hats. They also come in handy to shield your face from the sun and rain, and help to regulate temperature.

- C** Elastic belts blend in with style.
- D** Hat accessories add style and protection from the elements.



5 Scarves

Scarves and neckerchiefs are versatile and a portable way of elevating your outfits. Scarves can also draw attention away from the midsection if that is important to the wearer.

6 Earrings

Clip-on earrings are an excellent alternative to the hassle of handling tiny hooks and studs. Well-designed pairs often look no different from pierced earrings.

A Scarves can draw eyes to your eyes and smile.

B Clip-on earrings can complement one's hairstyle and outfit.



7 Necklaces

Putting on and taking off necklaces does not have to be a struggle.

- Choose long necklaces that go over your head
- Consider changing the clasp to a magnet

8 Bracelets

Slip-on or magnet-fastening bracelets or watches are easy to slip on and off, and there is a range of designs to choose from depending on your style.

C Added style with a First Nations crafted silver necklace.

D First Nations crafted silver bracelets make an elegant statement.



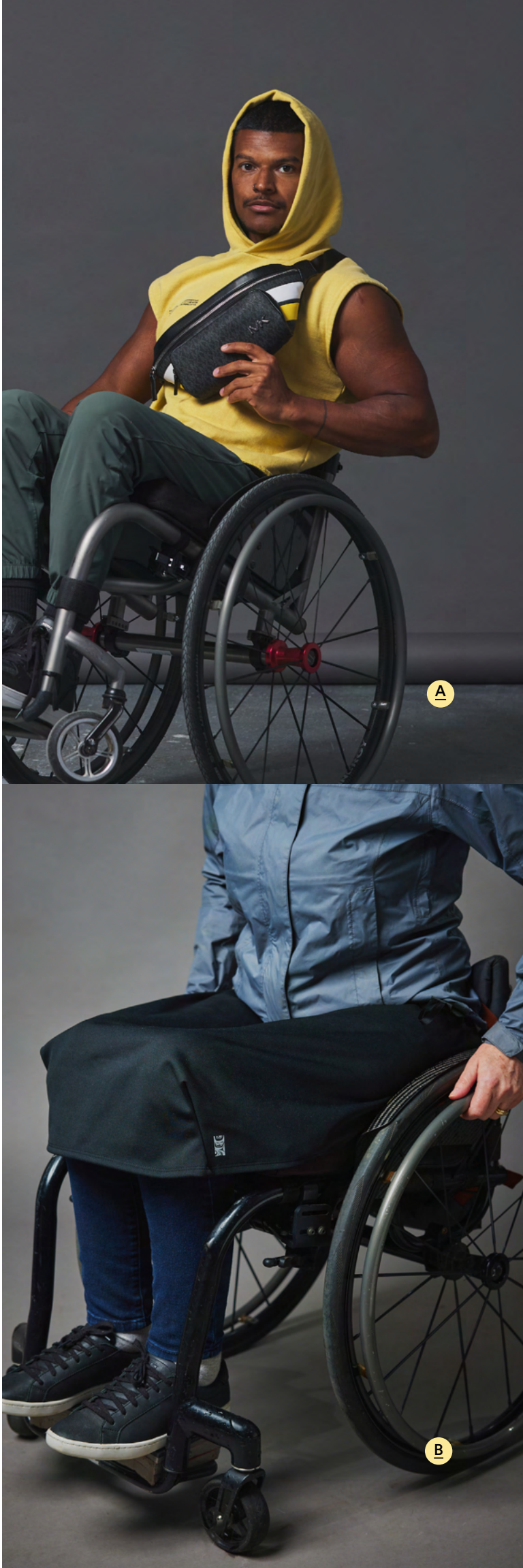
9 Bags

It never hurts to be prepared, and it is possible to find bags for must-haves and supplies that are not only easy to reach but also complement the whole outfit. For the ultimate Fashionista, find matching shoes to go with your bag.

10 Lap Covers

A comfort during the winter months, lap covers often come with straps that can be attached to the wheelchair or wrapped around the persons waist like an apron. Some lap covers are made with waterproof materials that can also serve as a rain jacket for the lower body.

- A** Front carry bags that slip overhead are easily accessible.
- B** Lap cover design by Chloë Angus.
- C** A vest can keep the core warm and arms unrestricted.



“As a quad, temperature control is an issue. Once I pick something for the day, that’s kind of what I’m gonna be stuck with until next time.”

Declan, person with SCI lived experience,
Vancouver, BC, Canada



Accessible Fashion Design

The Design Process

- Identifying what you need; for example:
Do you want to dress independently?
Is comfort your priority?
Do you need assistance in dressing?
What feels good on your body?
- Search up styles and fashion looks you love and think of creative ways on how to adapt them for what you need.

Collaboration

Building a common understanding and open dialogue with others about what adaptive clothing can be is key in advancing accessible fashion design goals. For example:

- Having common language to communicate among persons with SCI lived experience, designers, and SCI healthcare professionals is key to understanding accessible design and design features down to the types of fabric that are used to maximize comfort and to reduce skin injuries. A common understanding in this context for 'stretch' can communicate what actually works, such as ~5% spandex that is added to wool or cotton to make it more movable for range of motion at the shoulders and when wheeling.



Lived experience tip: Search for custom and independent designers on social media.

A Casual comfort can make a personal fashion statement.

B A design pant pattern created by a person with lived SCI experience. Note the high back.

Patterns and Drawings

- Lengthen centre back
- Shorten centre front
- Extend crotch front and back
- Lengthen pant leg above and below knee



Note: Not to scale, images for reference only.





READY-TO-WEAR CLOTHES

When it comes to buying, finding, and adapting ready-to-wear clothes, the approach can vary significantly depending on your personal style, body type, and lifestyle needs. Ready-to-wear (RTW) collections offer convenience and a wide variety of styles, but they aren't always a perfect fit for everyone straight off the rack. That's where thoughtful selection and tailoring come in.

A Stretchy slip-on dress with Velcro to close the back



A

Finding and Buying Ready-to-Wear Clothes

When shopping for RTW clothes, it's important to consider how each piece fits into your existing wardrobe and lifestyle. Look for versatile pieces that can be mixed and matched with what you already own, and prioritize quality over quantity. High-quality fabrics and well-constructed garments are worth the investment, as they tend to last longer and look better over time. For everyday essentials like blazers, trousers, and classic shirts, it's often wise to choose timeless designs that won't go out of style.

“We can make choices that will accommodate both able-bodied and one with a disability.”

Chloë Angus

Adapting and Tailoring Clothes

Ready-to-wear clothes rarely fit everyone perfectly. Tailoring allows you to personalize your clothes, ensuring they fit your body shape, height and create independence. Simple adjustments like hemming pants, taking in waists, adding different fastening options, removing seams and pockets, or shortening sleeves can make a significant difference in how polished and put-together you look. If you find a piece you love that isn't a perfect fit, a skilled tailor can often make adjustments to give it a custom feel. This is particularly important for key pieces in your wardrobe, such as suits, coats, or dresses for special occasions.

Knowing When to Invest

Knowing when to invest in a piece, whether custom or RTW, is crucial. Invest in items that are central to your personal style and daily routine. A well-tailored blazer, a pair of well-fitting jeans or shoes and accessories are worth spending more on because you'll wear them often, and they can elevate your entire wardrobe. On the other hand, for trend-driven pieces that you might only wear for a season or two, it's better to be more budget-conscious.

Ultimately, fashion is personal. What works for someone else might not work for you, and that's okay. The key is to build a wardrobe that reflects who you are, fits well, and makes you feel confident. Whether you're buying straight off the rack or investing in tailoring or custom made clothing, the goal is to create a cohesive collection that meets your unique needs and expresses your individual style.

“One gentleman out of Milan makes nice jackets and he knows my fit, I gave him my dimensions, but said I'm sitting in a wheelchair. He's like, well, maybe go this size up. That way it doesn't bunch because sitting down in a chair, clothes tend to bunch up quickly.”

Randall, person with SCI lived experience, Vancouver, BC, Canada



“Not fashionable! So bland! I like to be unique, [existing] adaptive fashion has been so awful. I have chosen to adapt my own clothing to express myself.”

Oleksandra, person with SCI lived experience,
Vancouver, BC, Canada









“[People in wheelchairs] have to be ready to lead the pack... We have to be much more assertive and self-confident in the way that we dress, and basically get them to change their expectations, as opposed to changing ours.”

Joaquim, person with SCI lived experience,
Vancouver, BC, Canada

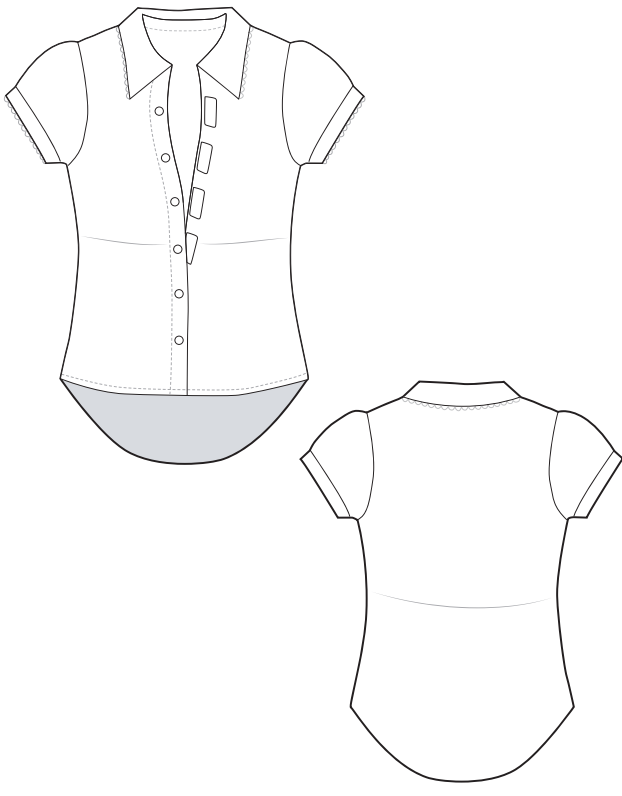


FEATURED DESIGNS

1. Blouses

Design features:

- Velcro fastenings (See image B for example sketch) that look like buttons on the front. The velcro runs all the way down the front but is in patches inside of the shirt where normally the buttonhole of the shirt is. The buttons are sewn on top of the shirt
- Sleeves have elastic so it's firm but allows for movement.
- Front hem is rounded for aesthetics more than accessibility.
- Back hem is longer than the front and the back is rounded at the bottom for comfort and ease of tucking in a seated position.
- Added lace details around neck/collar and edges of arm add femininity. Buttons have a rhinestone so it adds a more fashionable style.
- Side zipper added (see image A) for ease of pulling over head without undoing buttons.



A Blouse zipper with matching color ribbon for ease of pulling.
B Blouse with longer back for tucking in a seated position.

2. Pants

Design features:

- Lower in front to relieve pressure, higher in back to ensure pants stay at waist level when in a sitting position.
- Has a loop zipper pull that can be especially helpful for persons with limited hand function (zoomed in photo C). The long fly zips down below the crotch to facilitate intermittent catheterization.
- The top waistband is 2x the width of a normal waistband with large belt loops.
- Clasp for waistband are hooks (single flat hook and eye closures, wider hook).
- Seaming can be done on front as a design feature to add color and all stitching is done in hot pink.

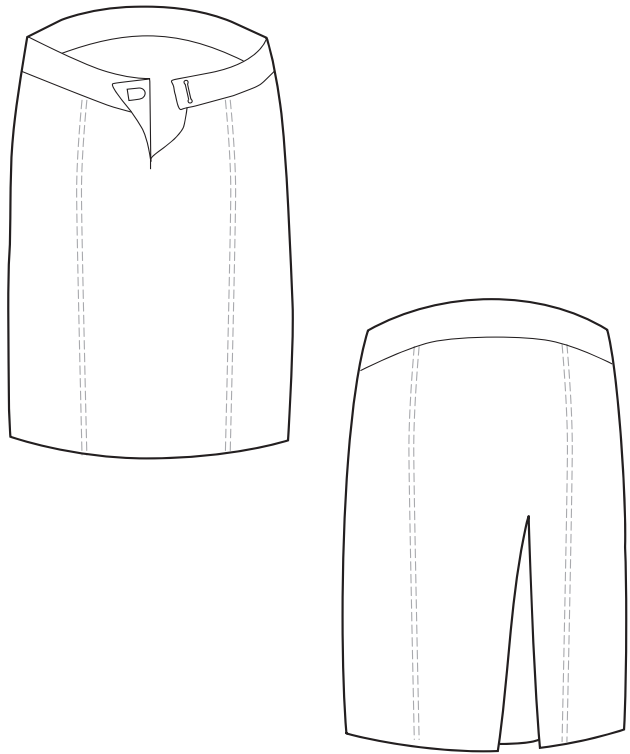


C Pants zipper with attached loop for ease of pulling.
D Pants without back pockets to avoid skin pressure sores when seated.

3. Skirts

Design features:

- Princess-style skirt
- The back is cut out (apron like, see image A)
- Skinny style with a slit in back so it's easier to put on. The slit is high up and up to back of thigh for easier toileting (see illustration B)
- Wide waistband with a clasp and a small zipper in front (see illustration B)
- Elastic waistband

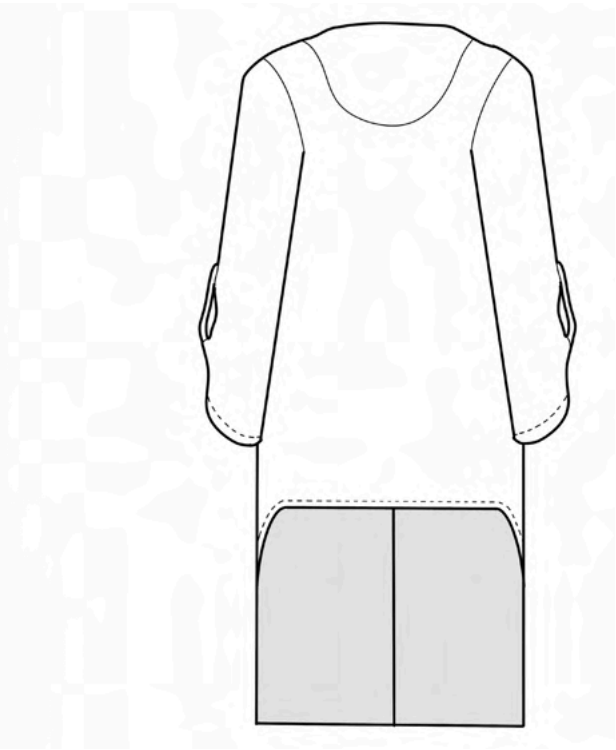


A Skirt with a large front hook for ease of fastening.
B Skirt with a slit-fold for comfort when sitting.

4. Rain Jacket

Design features:

- Magnet fastenings
- Long in the front (covers your lap) short in the back (avoids fabric bunching when sitting)
- Sleeves can be rolled up and fastened
- Waterproof materials



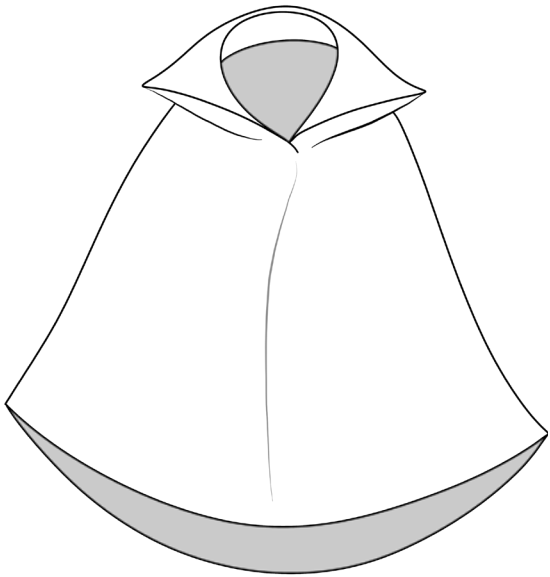
C, D Longer front rain jacket to pull over legs when sitting.

5. Rain Cape

Maureen (featured in photo) designed a cape to address the shortcomings of standard rain gear.

Design features:

- “I can put it on myself.”
- It is easy for others to figure out how to put it on a person on a wheelchair
- Can help with not getting soaked
- Can help with staying warm
- Can use the same design with fun and colorful fabrics
- A colorful statement that brightens one’s mood and projection to others



A Function and self-expression come together in Maureen's creation.

B Rain cape with a longer back to avoid material bunching when sitting.

“When I need to ask somebody on the street to help put [the cape] on, it’s easy for that. So that’s the practical part. And the design part is, I want it to be functional. And this is a little bit rain repellent it’s for a certain time of year. So it’s functional, and it also looks good. That’s the key. I have blue, and I have polka dots, and I have shiny gray, like animal skin. Yeah. They’re just all intending to be very serviceable and very attractive.”

Maureen, Vancouver, BC, Canada

RESOURCES

“The first thing I usually ask is, ‘What’s important to you?’”

Elijah, occupational therapist, Chicago, IL, USA



- The following resources were recommended by persons living with a SCI and healthcare professionals in our study on needs around adaptable clothing design:
- 1. **Brands:** There are adaptive-only as well as mainstream brands with adaptive line(s) available for online and/or in-store purchase.
 - a. Fashionable adaptive brands, like IZ Adaptive
 - b. Medical-based brands, like Silvert’s
 - c. Alteration companies, like Buttons2Buttons
 - d. Mainstream brands that carry adaptive clothing lines, like Chloë, Tommy Hilfiger, Target Adaptive
 - 2. **Websites:**
 - Websites were the most popular resources (64.4%) among persons living with a SCI.
 - Published primarily by SCI organizations, medical suppliers, and clothing companies, website content ranged from blogs, resource directories, and product features.
 - 3. **Peers & Advocacy Organizations:**
 - Connecting with your local advocacy groups can be a great way to gather useful advice and build a supportive community of folks who understand your struggles and wins.
 - 4. **Healthcare Professionals:**
 - 55.6% of persons living with a SCI in our study reported that they never discuss solutions for adaptive clothing with their health care professionals, and they expressed a desire to receive more information and strategies during the rehabilitation process.
 - A patient-centered approach that includes, for instance, questions that come from a place of curiosity and care may help facilitate discussions at a pace and manner that suits each person.

A Feeling good in one’s own style choices.
B A simple and elegant style.



REFERENCES

Chae, M. (2020). A needs analysis approach: an investigation of clothing for women with chronic neurological disorders. *International Journal of Fashion Design, Technology and Education*, 13(2), 213-220.

Cisler, A., Gardner, B., & Fox, L. (2014, February 11). Getting “handy” techniques for maximizing arm and hand function after SCI [Lecture presentation] SCI Forum, Northwest Regional Spinal Cord Injury System, University of Washington, United States. <https://sci.washington.edu/info/forums/reports/upperlimb.asp>

Hammell, K. W. (2004). Quality of life among people with high spinal cord injury living in the community. *Spinal Cord*, 42(11), 607–620. <https://doi.org/10.1038/sj.sc.3101662>

Hoffman, J. in United Spinal Association (2008, April 8). University of Washington Medical Center SCI Forum: Personal caregivers: Tips, tricks, tales from individuals with spinal cord injury [Conference presentation]. University of Washington Medical Center, Seattle, WA, United States. <https://askus-resource-center.united-spinal.org/index.php?pg=kb.page&id=301>

Jun, G. (2024). *Fashion, Disability, and Co-design: A Human-Centered Design Approach*. Bloomsbury Visual Arts.

Krassioukov, A., Linsenmeyer, T. A., Beck, L. A., Elliott, S., Gorman, P., Kirshblum, S., Vogel, L., Wecht, J., & Clay S. (2021). Evaluation and Management of Autonomic Dysreflexia and Other Autonomic Dysfunctions: Preventing the Highs and Lows. *Top Spinal Cord Inj Rehabil.*, 27(2):225–290. doi: 10.46292/sci2702-225

Na, H. S. (2007). Adaptive clothing designs for the individuals with special needs. *Journal of the Korean Society of Clothing and Textiles*, 31(6), 933-941.

Thomas Jefferson University Hospital and Magee Rehabilitation (2009). Activities of daily living-spinal cord injury manual. Jefferson Digital Commons. Retrieved May 27, 2024, from https://jdc.jefferson.edu/cgi/viewcontent.cgi?article=1009&context=spinalcordmanual_eng

University Health Network - Toronto Rehabilitation Institute (2022). *Spinal Cord Essentials*. Retrieved May 27, 2024, from <https://www.uhn.ca/TorontoRehab/Spinal-Cord-Rehab/Spinal-Cord-Essentials/Documents/Self-Care/SCE2-Sd1-Dressing.pdf>

Wan, D., & Krassioukov, A. V. (2013). Life-threatening outcomes associated with autonomic dysreflexia: A clinical review. *The Journal of Spinal Cord Medicine*, 37(1), 2–10. <https://doi.org/10.1179/2045772313Y.0000000098>

World Health Organization (WHO) (2001). *International Classification of Functioning, Disability, and Health (ICF)*. World Health Organization, Geneva.

World Health Organization. (2023). *Disability and health*. <https://www.who.int/news-room/fact-sheets/detail/disability-and-health>

APPENDIX

This guide was crafted based on the findings of an interdisciplinary, collaborative, and iterative research project on what is needed in the area of adaptive clothing.

1. We conducted an extensive review of the existing literature and website content related to clothing for persons living with a SCI:
 - 411 studies were from academic databases and other sources, out of which 18 key studies were identified for analysis
 - 560 search results were yielded by three major search engines, out of which 21 websites were identified for analysis
2. We surveyed and interviewed persons living with SCI lived experience and healthcare professionals with SCI expertise to understand their current practices and to identify any perceived gaps in adaptive clothing needs:
 - 45 individuals with a SCI living in the USA and Canada, the majority of whom (60%) have lived with a SCI for 12+ years
 - 22 healthcare professionals with SCI expertise in the USA and Canada with an average of 9 years of experience in SCI care
3. We facilitated roundtable discussions with our team that included consultants with SCI lived experience, fashion designers, researchers, and clinicians with expertise in SCI.

A detailed description of the methodologies and findings are available from Andrei.Krassioukov@vch.ca.



ACKNOWLEDGMENTS

With gratitude, we, in Canada, acknowledge that our operations are situated on the traditional, ancestral, and unceded territories of the Musqueam, Squamish, and Tsleil-Waututh people.

The authors gratefully acknowledge the support of the Craig H. Nielsen Foundation’s Community Support, Creating Opportunity & Independence Grant (Principal Investigator Dr. A. Krassioukov), and a WorkSafeBC’s Research Training Award (recepient T. Kalimullina).

A The FashionABLE models and photo creative team.

We also acknowledge the contributions made to this project by the following individuals: UBC Master of Science in Experimental Medicine student Tamila Kalimullina, UBC Master of Occupational Therapy students Mehala Kuwica, Wilson Wong, Nicole Banting, Bianca Magdangal, Bethany Wat, and Julia Kwan; Dr. Chris McBride and Ryan Clarkson (Spinal Cord Injury, British Columbia -SCI BC); Dr. Janice Eng (UBC), Dr. Andrea Bundon (UBC); and Julie Osipow (PT, OSL, NY).

We would also like to acknowledge the FashionABLE models: Asha, Jessica, Kristina, Leo, Michelle, Muj, Paulo, John, Maureen, Agasha, Richard, Kirsten, Ryan, Teri, and Joaquim.

Photography: KK Law
Hair and Makeup: Radiant Beauties, Krista Gruen and Natures Beauty, Sheena Lee
Photoshoot Assistance: Antigoni Savvaidis and Jessica Ryan
Photoshoot Stylists: Chloë Angus and Teri Thorson
Project Coordination & Editorial Support: Jessica P. Flores (UBC) and Dr. Olga Krassioukova-Enns

Scan to visit the FashionABLE website:



