

# Impact of Spinal Cord Injuries on Occupational Performance and Successful Role Acquisition during Motherhood

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## Background

Literature states that spinal cord injuries (SCI) do not affect a woman's ability to conceive but can cause complications and barriers during and after pregnancy (Iezzoni, Chen, & McLain, 2015). Weight gain can be a significant occupational barrier for most women during pregnancy, but for women with a SCI, this can lead to bladder incontinence and infections, inability to perform ADLs independently, difficulty with mobility and transfers, diminished skin integrity, back injury, and autonomic dysreflexia (Ethans, 2009; Housman, 2013; PQSA, 2017).

After giving birth, physical and environmental barriers continue to impact a mother's engagement in occupations, such as handling and placing the baby down, navigating and utilizing baby furniture, accessing the community, and effectively breastfeeding or bottle feeding. Motherhood can also be emotionally daunting for any mother, but women with a SCI can experience mental barriers such as, "fear that their injury and impaired function will prevent them from being a suitable mother to their children" (Housman, 2013, p. 2).

Occupational therapy practitioners (OTPs) can address these barriers by collaborating with the mother to provide client-centered exercises, adaptations, modifications, resources, and education (American Occupational Therapy Association [AOTA], 2015) that will increase their confidence and promote safety during independent childcare.

## Interventions During Pregnancy

### Deep Vein Thrombosis

- ▶ Address lower extremity edema
  - ❑ Elevate legs
  - ❑ Suggest modified shoes
  - ❑ Pressure stockings
  - ❑ Increase rest breaks

### Bladder Infections and Incontinence

- ▶ Educate patient and family on temporary alternative catheters (i.e. Foley catheter)
- ▶ Educate patient on frequency of new catheterization method to avoid infection

### Weight Gain

- ▶ Prevention and care for back pain
- ▶ Provide exercises for lower trunk
- ▶ Practice use of DME (i.e. Hoyer lift, hospital bed, or wheelchair)
- ▶ Assess assistance level for ADLs
- ▶ Seating and bedding adjustments
- ▶ Position adjustments
- ▶ Adaptive equipment
- ▶ Bladder management
- ▶ Patient and family education

### Autonomic Dysreflexia

- ▶ Usually occurs in pregnant women with an injury of T6 or higher
- ▶ Can be caused by constipation, bladder dysfunction, and other complications from pregnancy
- ▶ Symptoms include severely high blood pressure and headache, and can result in coma, stroke, or death
- ▶ Need to monitor patient and educate family on warning signs, especially in the final trimester which can indicate the patient is in labor
- ▶ Educate mother to advocate for herself and her needs with her medical team during her pregnancy and during delivery.

### Carpal Tunnel Syndrome

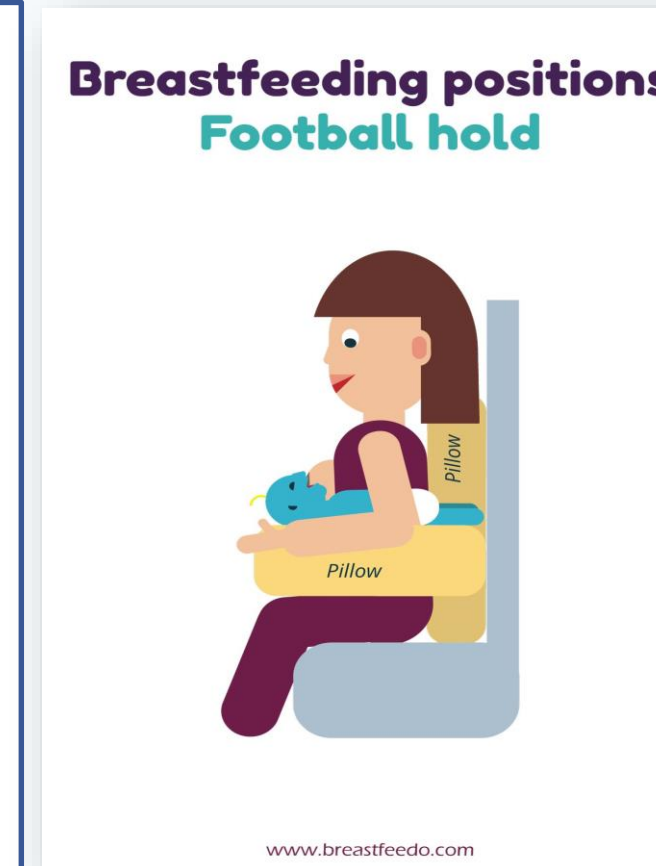
- ▶ Educate mother on strategies to reduce swelling and pain
- ▶ Educate mother and family on strategies to prevent excess joint pain
- ▶ Adaptive equipment (i.e. built-up handles, electric jar openers, silicone steering wheel covers, extended grabber)
- ▶ Splints or braces to keep wrist in neutral position

(Ethans, et al., 2009; Housman, 2013; PQSA, 2017)

## Interventions for Breastfeeding and Bottle Feeding

- ▶ Design pillows and assistive devices (i.e. triangular pillows, wraps, and baby Keurig bottle makers)
- ▶ Recommend and practice alternative positioning for mother and baby
- ▶ Offer adaptive strategies for energy conservation and identifying latching

(Ethans, et al., 2009; PQSA, 2017)



## Interventions for Mobility and Handling the Baby



- ▶ Suggest adapted positions
- ▶ Supply adaptive equipment
- ▶ Recommend slings, cots, pillows, and other assistive devices
- ▶ Home modifications to increase accessibility
- ▶ Upper body exercises
- ▶ Training and practice

(Ethans, et al., 2009; PQSA, 2017; Spinal Cord Injury Alberta, 2013; Wint, et al., 2016)

Image retrieved from <https://www.pinterest.com/pin/378020962447565129/>

## Interventions for Furniture Barriers and Baby Transfers



- ▶ Supply assistive devices
- ▶ Upper body exercises
- ▶ Training and practice
- ▶ Furniture modifications

(Ethans, et al., 2009; Housman, 2013; Spinal Cord Injury Alberta, 2013; Wint, et al., 2016)



Images retrieved from <https://www.pinterest.com/easystand/parenting-from-a-wheelchair/?lp=true>  
[http://www.childharness.ca/cust\\_profile.html](http://www.childharness.ca/cust_profile.html)

## Other Examples: Modifications and Assistive Devices



- ▶ Cribs with horizontal door
- ▶ Changing tables
- ▶ Co-sleeper furniture
- ▶ Harnesses
- ▶ Baby carriers and wraps

(Ethans, et al., 2009; Housman, 2013; Spinal Cord Injury Alberta, 2013; Wint, et al., 2016)



Images retrieved from <https://www.pinterest.com/pin/282389839107520924/> and  
<http://www.howtoadapt.com/BabyCrib/images/b16.jpg> and  
<http://atnetworkblog.blogspot.com/2013/05/babytoddler-assistive-technology.html>

## Consideration of Mental Barriers

### Concerns

- Fear ability to be a 'suitable mother'
- Judgment of others
- Fear of premature death
- Poor accessibility in home and community

### Intervention Ideas

- Discuss fears, concerns, doubts
- Adapt child care equipment
- Modify child care techniques
- Evaluate and create home modifications
- Build mother's confidence
- Promote safety

## Conclusion

- ✓ OT services can be utilized to optimize a mother's function, mobility and engagement during and after pregnancy
- ✓ OTPs can help women with SCIs fulfil the role of mother by providing
  - ▶ "training, adaptations, and resources" (para. 14)
  - ▶ "evaluating and recommending wheelchair seating and positioning" (para. 6)
  - ▶ Evaluating [mental], physical and environmental barriers in the home and community and recommending modifications (para. 8) (AOTA, 2015)
- ✓ Current literature indicates that there are limited resources for mothers living with SCIs, especially regarding care of infants
- ✓ Additional research is necessary to "examine the most effective strategies and adaptations" (p.2)

(Wint, Smith & Iezzoni, 2016)

There is a need for more evidence-based education, interventions, and guidelines for OTPs to provide appropriate and effective care for the specialized population of mothers with spinal cord injuries.

Image retrieved from <https://www.pinterest.com/pin/363595369899765635>



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