Spinal Cord Injury - InfoSheet #15

"Pregnancy and Women with SCI"

Level - Professional

Many women who receive spinal cord injuries are in their childbearing years. Following a spinal cord injury (SCI), there is no evidence that a woman's ability to conceive is affected. Observation has shown however, that women with SCI are usually older when they have their first pregnancy, than their able-bodied counterparts and therefore may have age related fertility issues.

Women with SCI do have unique obstetrical challenges. With increased awareness and support however, these women can have maternal experiences similar to their able-bodied counterparts.

One of the biggest problems reported by women during this time is finding a physician who understands their situation and is willing to learn about their unique bodies. Women with SCI have special concerns regarding the effects of pregnancy on their disability as well as the disability on their pregnancy. Obtaining information and allowing communication between the woman and her physician prepare all for the many changes to come.

Before Conception

When possible, it is important for the woman to discuss her plans for starting a family with her physician. Some medical concerns to address prior to conception are:

- **Medications**

Review each medication that the woman is taking to evaluate any potential for birth defects. If possible, drugs should be discontinued, especially during the first 3 month of pregnancy.

- **Urological Evaluation**

X-rays should not be done during pregnancy unless absolutely necessary, as they could harm the fetus. Schedule a complete urologic evaluation and consult with the urologist regarding the type of urologic follow-up care that is advisable during pregnancy.

- **Physical Changes**

Some women may have a skeletal abnormality, i.e., curvature of the spine, pelvic fractures or hip disarticulation. These can interfere with the space in the abdomen available to carry a full-term fetus or have a normal delivery. Advise the woman of any complications she may experience.

Pregnancy

Pregnancy is a time for planning and change for all women, however this becomes more critical for a woman with a disability. The growing fetus may potentiate the physical limitations of the woman with a spinal cord injury. Fetal/uterine enlargement may affect diaphragm movement, diminishing respiratory capacity and predisposing these women to pneumonia, especially those with tetraplegia.

In addition, pressure ulcers are more likely to occur as pressure relief and transfers become more difficult secondary to the mother's changing weight. Furthermore, changing nutritional demands and the mother's altered center of gravity can impair healing to a pressure ulcer once it develops. Pregnancy enhances a woman's susceptibility to anemia, which may also contribute to skin breakdown.

Programs for neurogenic bowel and bladder may also be affected as the fetus grows. Constipation is a problem during pregnancy for all women due to delayed movement of food through the bowel from hormonal effects and iron supplementation. The pressure from the growing fetus/uterus on the bladder may cause incontinence. Bladder spasticity may increase with similar consequences.

Urinary tract infections increase more than usual due to the increased susceptibility that pregnancy causes. Chronic antibiotic supression may be advocated at specific times during all trimesters.

Another possible concern from the growing fetus is increased pressure on the venous return from the legs. This may predispose the woman to developing a blood clot in her legs (called deep venous thrombosis - DVT).

The woman likely will require more help with daily living activities. Review her independent skills and how these are changing during the pregnancy. This may require authorizing services such as physical therapy, occupational therapy, or home care.

Labor and Delivery

Indications for vaginal deliveries vs. Cesarean section are essentially the same for women with spinal cord injuries as with able-bodied women. Research has shown however that C-sections are more frequently performed in women with SCI. The uterus, controlled by neurohormonal factors and not neurological factors,

begins the contractions at the appropriate time. This is the same for women regardless of motor function and sensory level.

Women with injury above the level of T10 will not have sensation of uterine contractions. Women are able, however, to use other indicators for labor such as fear and anxiety, increased spasticity, respiratory changes, referred pain above the level of injury or autonomic dysreflexia (AD). It is important to watch for signs of AD at all times during labor and delivery. (Severe headaches, high blood pressure, flushing, sweating).

Psychological

The woman with SCI may feel a sense of lack of control during the labor process. Anxiety and wish for control are found to be common during the end of pregnancy and exacerbated by a strange environment, fear of the unknown, and lack of knowledge. Proper orientation to the medical setting and education during prenatal instructions provides the woman with a sense of familiarity with her upcoming labor and delivery. It also gives her the opportunity to familiarize the health care team of her specific needs.

Premature Deliveries

Women with a spinal cord injury do have a higher incidence of unrecognized labor. There is also some evidence that premature labor is more likely for those women. There are two concerns related to an early delivery. The premature infant may have developmental or physiological problems that could lead to death. An early delivery may also take place outside a health care setting. This could place the SCI mother and infant at risk.

Some steps that the obstetrician may want to take after the 32nd week of pregnancy may range from weekly medical examinations to complete bed rest with special attention to bladder, bowel and skin care, to early hospitalization. Use of a contraction monitor at home may also be required. Induction can be difficult in patients with a neurological level of T6 and above because of the risk of hyperreflexia.

Autonomic Dysreflexia during labor and delivery

AD may occur in women with an injury at or above the T10 level, especially above T6. The cause is an intense stimuli that occurs below the level of injury. This can be from a full bladder, a bowel impaction, changing a Foley catheter, or a vaginal or rectal exam. Of most importance is that autonomic dysreflexia often occurs with uterine contractions at time of labor and delivery. Know her history of autonomic dysreflexia and how this was managed. Discuss this with the anesthesiologist.

Signs and symptoms include severe headache with increased blood pressure that occurs with uterine contractions. The woman may also experience a decrease (or occasionally an increase) in heart rate, with goosebumps and sweating. Pitocin should be avoided since it may make the problem worse. There is evidence that AD may cause fetal distress. Proper anesthesia or anti-hypertensives can treat the problem but immediate delivery of the baby and placenta is imperative.

Positioning

Physical Changes that may develop after SCI may affect positioning during delivery. Pelvic and spine changes such as scoliosis, hip disarticulation, contractures, heterotopic ossification, or previous fractures may hinder the baby's descent**.** Any of these physical changes present difficulties with positioning the woman on the delivery table and stirrups.

Spasticity may interfere with the delivery for the same reasons related to positioning.

Pressure sores are inevitable if changes in positioning are not frequent. It is important for the nursing staff, as well as the woman, to monitor the skin during labor, delivery, and post -op.

Finally, **fractures** in the lower extremity may be predisposed by post-injury osteoporosis.

Delivery

More recent reports question earlier studies that suggest a higher incidence of episiotomy dehiscence, failure to progress in labor, still births, and birth defects. Delivery outcomes for the most part are similar to able bodied women. There is some evidence however that suggests the babies may experience a higher incidence of problems breathing at delivery, so they must be monitored closely. Delivery may require spinal or epidural anesthesia and use of forceps since the mother lacks the abdominal muscle control to assist in the delivery.

Post Partum

After delivery there are some possible medical complications of which to be aware. Urinary tract infection rate is high for women initially after delivery. Watch for any symptoms. The woman can readjust her bowel and bladder management programs, usually returning to her previous routine. A common practice in obstetrical units is to use a heat lamp on the perineum. If there is a loss of sensation, there is a danger of burns and heat should not be used.

Orthostatic hypotension can occur for women who have no control over the abdominal muscles. There can be a tendency to faint or feel dizzy when sitting up for several days after the delivery. This can be minimized or

Special Concerns for Women with SCI during Pregnancy & their Health Care Providers

Special Concerns	Woman with Spinal Cord Injury	Medical Personnel
Activities of Daily Living	Body changes during last 3 months of pregnancy may affect one's balance, mobility, and ability to transfer. May be an awkward time. Assistive devices, like a reacher, can be helpful.	Make needed referrals to occupational therapy and physical therapy as needed. Review independent skills.
Autonomic Dysreflexia	May occur from fetus growth, pressure sores, or bladder/bowel problems, as well as normal pre-pregnancy causes. Ask doctor before taking any medications.	Monitor closely. Use blood pressure lowering medications cautiously. Discuss with delivering physician and anesthesiolgost
Bladder Management	Pressure from growing fetus decreases bladder capacity. If using intermittent catheterization (ICP), may need to cath more frequently. Bladder spasms may increase causing leakage with or without a catheter in place. May need to change bladder management program during last few weeks of pregnancy.	Monitor and make recommendations for changes in bladder management methods.
Bowel Management	May have constipation due to increase in size of uterus and pressure on colon. Increase in hormone progestin and use of iron supplements can delay bowel movements. May need to change bowel program. Increase high fiber in diet, Use laxatives as doctor recommends. Increase exercise when possible. Eating more during pregnancy may require more frequent bowel program or use of stool softeners.	Review all bowel medications, including supositories, for safety during pregnancy. Encourage diet high in fiber and fluids.
Deep Vein Thrombosis	As fetus grows, pressure on the venous return of blood from the legs increases. May cause swelling/edema. In later stages may need to lay down and elevate feet. Elastic stockings may be used.	Monitor closely for extremity asymmetry.
Medications	Keep all medications to a minimum.	Examine medications used for spasticity, bladder & bowel management and Autonomic Dysreflexia each trimester. Discuss risks and benefits with the woman.
Nutritional Needs	Calcium supplements are important. Anemia may occur, iron supplements usually recommended. Eat foods high in iron. Take pregnancy vitamins. Many need to change diet to suit bowel program.	Calcium deficits could promote post injury osteoporosis. Find a level of calcium that meet needs of pregnancy and does not increase frequency of urinary stones. Vitamin/iron deficiency delay healing of pressure ulcers and skin breakdown.
Pressure Ulcers	More likely to occur since an increase in weight makes pressure reliefs and transfers more difficult. Pay attention to skin where pressure sores may form - sacrum, heels, ischia, elbows. Keep skin clean and dry.	Observe skin at check-ups for signs of pressure sores.
Respirartory Capacity Decreases	As fetus and uterus enlarge, It may affect movement of diaphragm. Diminishes capacity of lungs.	Predisposes to pneumonia, especially those with tetraplegia. May need regime of incentive spirometry or other breathing exercises.
Urinary Tract Infection	UTIs increase in frequency during pregnancy as fetus presses on bladder, urinary tract, and/or catheter. Limited antibiotics available for use. Drink recommended amount of liquids each day.	National Task Force on Sexuality and Disability has a partial list of antibiotics to avoid during pregnancy. A few represented are: aminoglycosides, erythromycin, nitrofurantoin, chloramphenicol, sulfonamides, and tetracycline. UTI may cause premature delivery and fetal death in the expectant mother.

prevented by sitting up very slowly and wearing elastic hose with or without an abdominal binder.

Breast Feeding

Women with SCI should be able to breast feed if they desire. Although an increase in spasticity may occur, women with levels below T6 usually have no problems. Women with levels above T6 have been reported to have a reduction in milk production after 6 weeks. This may be due to a lack of nipple stimulation which is necessary for milk production to occur, believed to be secondary to the lack of neural stimulation required for prolactin release.

Recommendations for Medical Staff

Most importantly, as with all women during their pregnancy and delivery, reassurance and emotional support are needed. Office staff and hospital staff in labor and delivery, need to be instructed to the specific needs of the expectant mother with a spinal cord injury. Pregnancy, labor, and delivery can be experienced without problems by the woman with an SCI, provided the obstetrician, family practitioner, nurse, physical therapist, occupational therapist, and physiatrist work as a team to provide care and share all knowledge of the disability.

References

Medical management of women with spinal cord injury: A review. Amie B Jackson, MD. *Topics in Spinal Cord Injury Rehabilitation* 1995:1(2);11-26.

Pregnancy and Delivery. Amie B Jackson, MD. In *Women with physical disabilities: Achieving and maintaining health and well-being.* Baltimore, MD. 1996. pp91-99.

Resources

• Center for Research on Women with Disabilities (CROWD)
Baylor College of Medicine
Dept of Physical Medicine & Rehabilitation
3440 Richmond Ave, Suite B, Houston, TX 77046
713-960-0505
Research center focuses on issues related to health, aging, civil rights, abuse, & independent living for women with disabilities

• Mother-to-Be: A Guide to Pregnancy and Birth for Women with Disabilities. Judith Rogers and Molleen Matsumura. 1991. Demos Publishers. 386 Park Ave S, New York. NY 10016. 800-532-8663 Cost: $24.95

• Through the Looking Glass
2198 Sixth St, Suite 100, Berkeley, CA 94710-2204
800-644-2666 or 510-848-1112
email: TLG@lookingglass.org
web site: http://www.lookingglass.org
Provides clinical and supportive services, training and research to families in which one or more members - whether parent of child, has a disability or medical issue.

Available from **Through the Looking Glass** -

• Adaptive Parenting Equipment, Idea Book 1
Handbook of ideas for more than 40 pieces of adaptive equipment. $10 to families / $25 professionals.
web site: http://www.ncdrr.org/gateways/aat/parent/result.htm

• Parenting with a Disability
Free ***newsletter*** to parents with disabilities & their family.

• Resourceful Woman
Newsletter with a column called *Resourceful Parenting* by
Health Resource Center for Women with Disabilities
Rehabilitation Institute of Chicago
345 E Superior St, Rm 106, Chicago, IL 606011
312-908-7997 or **email:** jpsparkle@aol.com

Web Resources

• Female Reproduction after Spinal Cord Injury
(pamphlet) May, 1995
Paralysis Care Network, The Turnstone Center
3320 N Clinton, Ft. Wayne, IN 46805
http://www.spinalcord.uab.edu/docs/pcn004a.htm

• Female Sexuality & Spinal Cord Injury
Fact Sheet #8, 1992
Arkansas Spinal Cord Commission
1501 N University, Suite 470, Little Rock, AR 72207
501-324-9624
http://www.spinalcord.uab.edu/docs/ark008.htm

• Sexual Function and Fertility after SCI
U Washington Rehabilitation Medicine
http://weber.u.washington.edu/~rehab/sci/update/sex-females6-2.html

• Sexuality after Spinal Cord Injury
Fact Sheet #3, 1996
National Spinal Cord Injury Association
8300 Colesville Rd, Silver Springs, MD 20910
800-962-9629
http://www.spinalcord.org/resources/factshts/fact03.html

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