



Department of Rehabilitation Services
Physical Therapy

Standard of Care: High Risk Pregnancies
Inpatient Physical Therapy Management of the Patient with High Risk Pregnancy
Requiring Bedrest

Case Type / Diagnosis:

This standard of care applies to the acute care management of any woman with a high risk pregnancy requiring bedrest to prevent fetal loss or extreme premature delivery or to control maternal medical conditions. This may include patients with the following diagnoses:

- Premature Labor
- Premature Rupture of Membranes
- Incompetent Cervix
- Placenta Previa
- Pregnancy Induced Hypertension
- Pre-eclampsia
- Gestational Diabetes
- Multiple Gestations
- Musculoskeletal Problems (not specifically addressed in this standard of care)

Indications for Treatment:

The primary indications for treatment in this patient population are related to the effects of prolonged bedrest.

- The physiologic effects of diminished mobility due to bedrest include:
 - General deconditioning
 - Muscle atrophy
 - Joint stiffness
 - Risk for thrombus formation
 - Risk for orthostatic hypotension
 - Decreased respiratory capacity related to more shallow and slower breathing patterns
 - Constipation
 - Increased pressure on areas of bony prominence
- The psychological effects of prolonged bedrest include:
 - Diminished sensory stimulation
 - Altered perception of body image

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- Limited social interactions, especially involving family
- Lack of control in the patient's life

Contraindications / Precautions for Treatment:

The following are common contraindications/precautions which must be considered in the management of the patient with a high risk pregnancy requiring bedrest. Each must be considered for the individual patient's status.

- If the pregnancy is less than 28 weeks gestation, consult with a senior therapist prior to treating the patient.
- Do not initiate or continue activity if there is:
 - New or increased vaginal bleeding or spotting
 - New or increased contractions
 - Abdominal/pelvic cramping, pain, or discomfort
 - Increased leaking of amniotic fluid (seen with some premature rupture of membranes)
 - New complaints of back pain can be a sign of labor; will need to differentiate between labor pain and musculoskeletal pain
- Do not perform isometric exercises, including isometric quadriceps, gluteal, or Kegel (pelvic floor) exercises. Do not perform any primary abdominal exercises. Avoid Valsalva maneuver. All have potential to increase pelvic floor pressure.
- Identify level of activity ordered. If it is not clear from the medical record, verify with the nurse. The following activity orders are typically seen in this patient population (listed from the most restrictive to the least restrictive level of activity allowed):
 - Trendelenberg
 - Bedrest (BR)
 - BR with commode privileges
 - BR with bathroom privileges (BRP)
 - Ad lib

The usual activity level is bedrest with bathroom privileges upon admission to the hospital (abbreviated "BR w/BRP"). Sometimes the MD will have the patient positioned with a pillow under her hips/pelvis to promote a posterior pelvic tilt. This depends on MD preference, and the MD will initiate if they prefer this position for their patient.

- Be aware of medications, particularly the tocolytics that are used to stop premature labor.
 - Terbutaline is taken orally. It is a smooth muscle relaxant for uterine irritability. The potential side effects of terbutaline are tremors and increased heart rate. The higher the risk of contractions, the more frequently this drug is administered.

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- Magnesium sulfate (MgSO₄) is usually administered by IV in the Labor and Delivery (L&D) area to stop labor. Its side effects are CNS depression, tremors, and muscle weakness. Patients may be on the regular floor with IV MgSO₄ while they are being weaned off the medication. Hold treatment until MgSO₄ has been discontinued.
- The following factors increase the risk that the current pregnancy will not reach full term:
 - The greater the number of previous pregnancies
 - The greater the number of previous losses
 - The current gestational age is <26 weeks
 Developmentally, the fetus is viable at 24 weeks. The chances of survival at delivery improve after 28 weeks.
- If the patient needs to be put into Trendelenberg position, do not treat the patient within the first 24 hours of the patient being put into this position. May proceed with caution if the patient has tolerated this position >24 hours.
- Patients should be monitored for their emotional response to their current circumstances (e.g., fear or apprehension, or lack of concern).
- Special consideration:
 - An adolescent who is pregnant has additional factors to be considered:
 - Developmental readiness for child rearing
 - Physical risks for mother and baby
 - Other psychological and economic factors

Examination:

This section is intended to capture the minimum data set and identify specific circumstance(s) that might require additional tests and measures.

- Chart Review
 - Prior medical history: include previous pregnancies and obstetrical conditions and any history of physical therapy interventions
 - Reason for admission, hospital course, medications, and plan for expectant management including planned method of delivery
- Social History
 - Prior functional mobility and activity level
 - Home environment, especially for discharge planning (and if being seen in the outpatient population)
 - Family, professional, social, and community roles
 - Level of support available from family, friends, and staff
 - Patient's goals and expectations of returning to previous life roles

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- Physical Examination and Cognitive/Psychological Considerations
 - Subjective complaints of pain or discomfort, concerns regarding hospitalization
 - Range of motion
 - Sensation
 - Level of bed mobility and transfers
 - Ability to ambulate, if appropriate
 - Patient's knowledge of activity restrictions and rationale for these restrictions as it pertains to exercise
 - Patient's coping mechanisms and adjustment to the hospitalization and challenged pregnancy

Evaluation / Assessment:

- The primary goal when working with this patient population is to provide them with an individualized plan of care which minimizes deconditioning, decreases potential for formation of deep venous thromboses (DVT), and provides the patient with an element of control in her care without increasing potential for early delivery. Secondary goals include serving as a resource for the patient and provide emotional support.
- Potential impairments in this patient population include, but are not limited to:
 - Impaired emotional responses
 - Impaired integument integrity
 - Impaired range of motion
 - Impaired strength
 - Impaired aerobic capacity/endurance
 - Impaired muscle tone
 - Impaired circulation and venous return
 - Impaired pain control
 - Knowledge deficit
- The rehabilitation prognosis may be modified by any of the following factors:
 - Nature of the pathology
 - Ongoing medical treatments
 - Presence of co-morbidities
 - Social or environmental barriers that impact ability to return to previous situation and/or care for self and infant
 - Psychological status
- Goals should be individualized for each patient, taking into consideration viability of fetus/gestational age, maternal anxiety, and patient's goals and understanding. Suggested goals may include:

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- Therapeutic Exercise
 - Instruct the patient in general supine active-assisted or active exercises with progression to include all four extremities (according to “Prenatal Mobility Exercise” program—see attached sheet).
 - Individualize these exercises to each patient’s needs and abilities (e.g., For a patient with multiple high-risk factors, start with only the distal leg exercises and progress slowly).
 - Provide patient with the written exercise sheet designated for the high risk pregnancy population (see attached sheet).
 - A follow-up visit the day after initial evaluation is necessary to assess patient tolerance for exercise (e.g., no increased bleeding, no increased contractions, and no increased leakage of amniotic fluid).
 - Assess patient’s ability to continue exercises independently.
 - For initial visit, patient should perform 5 repetitions of each appropriate exercise under direct supervision by physical therapist. Patient should not perform more than one additional set of 5 repetitions later that day, if patient’s status is reasonable. Instruct the patient to perform only the recommended exercises for the first day. Exercises can be progressed at the first follow-up visit if appropriate.
 - Exercises can be progressed by increasing the number of individual exercises, the number of repetitions, and the number of exercise sessions per day.
 - Exercises for the upper extremities can also be progressed from active-assisted to active to light resisted using small weights (not to exceed 3 lbs).
 - Do not increase to more than 10 repetitions within one session. Do not increase the number of sessions to more than 3 per day. Do not make more than one change in the exercise program per visit.

- Modalities
 - May recommend use of ice/cold pack, moist heat, or TENS for musculoskeletal pain. There is little information in current literature regarding the use of TENS over the abdominal/pelvic region or the related acupressure point located near the lateral malleoli during pregnancy. Generally we avoid using TENS in these areas. If MD requests use of TENS for pain other than labor and delivery pain, contact MD and obtain specific parameters.
 - Avoid deep massage to the abdominal region and lower legs. Gentle relaxation massage to the soles of the feet or back is acceptable and can be performed by a family member or friend.

- Vital Sign Monitoring
 - Monitor heart rate and blood pressure as appropriate, especially with patients with pregnancy-induced hypertension or pre-eclampsia.

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Frequency and Duration of Treatment:

- Initially, patients are seen 1x per day for 2 consecutive days if seen as an inpatient (or for 2 consecutive physician appointment days if seen as an outpatient).
- Clinically these patients do not usually need to be seen on the weekend. For Inpatients: To be able to assess the mother's tolerance to the therapy program the next day, it is recommended that a new referral for a mother <30 weeks gestation not be initiated on a Friday or the same day she is being discharged.
- Follow-up treatment frequency:
 - Once a week to monitor and progress exercises as tolerated for inpatients.
 - Outpatients should be on an independent program after 2 visits unless the MD reconsults.
- Duration of treatment:
 - Until delivery or until discharge home from hospital for continued expectant management.

Recommendations and referrals to other providers:

A patient on prolonged bedrest due to high-risk pregnancy may benefit from the following services:

- Social Work
- Care Coordination
- Chaplaincy

Re-evaluation / assessment:

Re-evaluations are performed on a weekly basis prior to progression of exercise program as pregnancy progresses. Other factors that would require re-evaluation include:

- Change in medical status
 - Observation in Labor and Delivery
 - New labor responsive to tocolytics
 - New vaginal bleeding
 - New rupture of membranes
- Plan for discharge home for further expectant management and bedrest

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Discharge Planning:

- Discharge from physical therapy is automatic with delivery of the baby and does not require further documentation. Physical therapy should be reconsulted if intervention is needed following delivery.
- Discharge can be made to home for stable pregnancies with continuation of bedrest and expectant management. Home physical therapy is not indicated. The patient should be provided with instruction for weekly progression of exercises to continue at home at time of discharge.

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