



OCCUPATIONAL THERAPY

MANAGEMENT OF THE NON-SURGICAL AND SURGICAL SPINE

October 12, 2019

Beaumont
HEALTH

OCCUPATIONAL THERAPY

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LEARNING OBJECTIVES

- Understand the role of Occupational Therapy in treating the surgical and non-surgical spine.
- Understand how the patient's occupational profile is used within the evaluation and subsequent treatment
- Learn how to integrate practical everyday activities for improved function
- Determine what adaptive equipment and alternative strategies can be utilized to increase ease and independence with ADL's.

NECK AND BACK PAIN



PAIN DEFINED

- Pain is a distressing experience associated with actual or perceived tissue damage with sensory, emotional, cognitive and social components
- Pain is affected by and influences other areas of life
- Emotions, sensations, beliefs about pain and social aspects are involved with persisting pain— **Bio-psycho-social model of pain**



ACUTE PAIN

- Acute Spinal pain is defined as: A type of pain that typically lasts less than 7 weeks, or pain that is directly related to soft tissue damage. *Acute* pain is of short duration but it gradually resolves as the injured tissues heal.



SUB-ACUTE PAIN

- Sub-Acute is defined as LBP continuing for 7-12 weeks
- The focus for interventions should be on prevention of recurrences and preventing the transition to chronic low back pain



CHRONIC PAIN

- Lasts for more than 3 months- or beyond an expected normal healing time
- Individuals believe that they have ongoing disease or that body has not healed
- Brain and nervous system go on “high alert” becoming more sensitive
- Brain continues to interpret all sensations from problem areas as danger, even in the absence of tissue damage

THE COST OF CHRONIC PAIN

- According to a recent report *Relieving Pain in America* (US Institute of Medicine):

“The Annual economic cost of chronic pain in the US is at least \$560-635 billion. This estimate combines the incremental cost of health care (\$261-300 billion) and the cost of lost productivity (\$297-336 billion) attributable to pain. “





OCCUPATIONAL THERAPY ASSESSMENT

- Observation
- Pain assessment
- PRO's – Patient Reported Outcomes
- Patient history (presence or absence of “red flags”)
- Assessment of prior treatment and response
- Job/leisure activity
- Psychosocial screening that includes depression and chemical dependency screening

PSYCHOLOGICAL RISK FACTORS

- Belief that pain and activity are harmful
- “Sickness behaviors” such as extended rest
- Depressed or negative moods, social withdrawal
- Treatment that does not fit best practice
- Problems with claim and compensation
- History of back pain, time off or other claims
- Problems at work or low job satisfaction
- Heavy work, unsociable hours
- Overprotective family or lack of support

CHRONIC PAIN PRESENTATION

- Fear of movement—kinesiophobia
- Body Stiffness
- Deconditioning
- Worsening of other conditions
- Increased use of medications
- Patients often depressed

AVOIDING CHRONIC PAIN

- **Knowing Pain:** Literature supports that understanding how pain systems work is essential to managing it. Educating patients on the basics of how our brain and nerves work, and their role in pain, can help reduce the chance for developing chronic pain.
- **Keep Moving:** Living an active, healthy lifestyle can reduce chances of developing chronic pain. Not all aches and pains are cause for concern
- **Don't focus on tests:** Studies have been performed and found that 90% of individuals who had no symptoms of back pain had a degenerated or bulging disc, 36% had a herniated disc, and 21% had spinal stenosis. Imaging may not correlate with symptoms.
- **Address depression / anxiety:** Failure to address will increase the likelihood of developing chronic pain

OT OPPORTUNITIES



- Greater involvement in management of patients with Occupation based deficits.
- Occupation-based practice + Occupation-based interventions = highly effective in treating a variety of impairments
- Supportive of AOTA's Centennial Vision - Achieving health, well being and participation in life through engagement in occupation

BEAUMONT OCCUPATIONAL THERAPY

- Recognized the need for occupation based care
- Consistency with the out-patient OT departments
- Work flow, documentation guidelines and clinical competency were developed
- Evidence supports OT interventions to improve ADL/IADL's, health and quality of life for people with varying diagnoses



BEAUMONT OCCUPATIONAL THERAPY

- Supporting health care reform initiatives aimed at promoting independence, function and quality of life throughout the continuum of care.
- Short interventions 3-4 visits
- Episodic care – every 2-3 months
- Lifestyle Redesign – New term
- Functional Restoration Program – (NEW)



Occupational Therapy Practice Framework: Domain & Process 3rd Edition

- It is an excellent resource to assist you in describing and documenting what you observe during your intervention session
- It provides an expanded, detailed list of performance skills to help you improve your observation skills.
- This offers a framework that not only assists the OT in knowing what to look for and identifying what is observed, but also provides the language for describing and documenting client performance.



Occupational Therapy Practice Framework: Domain & Process 3rd Edition

- 63 different performance skills are identified and defined
- Patient Information
- Patient Environment
- Patient's Occupational Performance



OCCUPATIONAL PROFILE

- “The Occupational Profile is a summary of a client’s occupational history and experiences, patterns of daily living, interests, values, and needs” (AOTA, 2014, p. S13). The information is obtained from the client’s perspective through both formal interview techniques and casual conversation and leads to an individualized, client-centered approach to intervention.



BEAUMONT HEALTH OCCUPATIONAL PROFILE

- EMR updates were added to support the OT Framework, the ability to establish an Occupational profile and support occupation based care.
 - The new eval CPT codes require an occupational profile.
 - Demonstrates distinct value of OT
 - Provides critical information to the selection of occupational based interventions
- AOTA identifies this as a high priority for practice improvement

OCCUPATIONAL THERAPY

Function

Function

Function

OT MANAGEMENT OF NON-SURGICAL SPINE



OT REFERRAL PROCESS

- In the beginning.....2011
- Communication
- Cross Referral from Physical Therapy
- Work in collaboration



Beaumont

Health and Wellness Center
1555 East South Blvd., Ste 120
Rochester Hills, MI 48307
248-267-5650; Fax 248-267-5637

Dear Dr. _____

Thank you for the referral of your patient, _____ for physical therapy services. I have completed the physical therapy assessment and recommend your patient also receive **Occupational Therapy** services. If you agree with the recommendation, please sign, and fax the prescription below to the Occupational Therapy Department at **248-267-5637**. If you have any questions or concerns, please contact me at 248-267-5650

Physical Therapist Signature Date _____

Occupational Therapy Referral

Patient Name: _____ DOB: _____

Diagnosis: _____

Surgical Procedure and Date: _____

Frequency/Duration: _____

Precautions: _____

- | | |
|---|--|
| <input type="checkbox"/> Evaluate and Treat | <input type="checkbox"/> Patient/ Family Instruction |
| <input type="checkbox"/> ADL's | <input type="checkbox"/> Home Program |
| <input type="checkbox"/> Adaptive Equipment/Activity Mod | <input type="checkbox"/> Body Mechanic Principles |
| <input type="checkbox"/> Safety Training | <input type="checkbox"/> Fit for Function |
| <input type="checkbox"/> Neuromuscular Re-Ed | <input type="checkbox"/> Home Safety Evaluation |
| <input type="checkbox"/> Coordination Training | <input type="checkbox"/> Work Station Analysis |
| <input type="checkbox"/> ROM/Strengthening | <input type="checkbox"/> Splinting _____ |
| <input type="checkbox"/> Sensory Re-Ed | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Manual Therapy | |
| <input type="checkbox"/> Edema Reduction | |
| <input type="checkbox"/> Work Simplification/ Energy conservation | |

I certify/ recertify, that I have examined the patient and Occupational Therapy is necessary. These services will be rendered while the patient is under my care. The plan is established and will be reviewed every thirty days, or more often if patient's condition requires.

Physician's Signature

Date

Physician's Printed Name



EVALUATION & TREATMENT

NON-SURGICAL SPINE

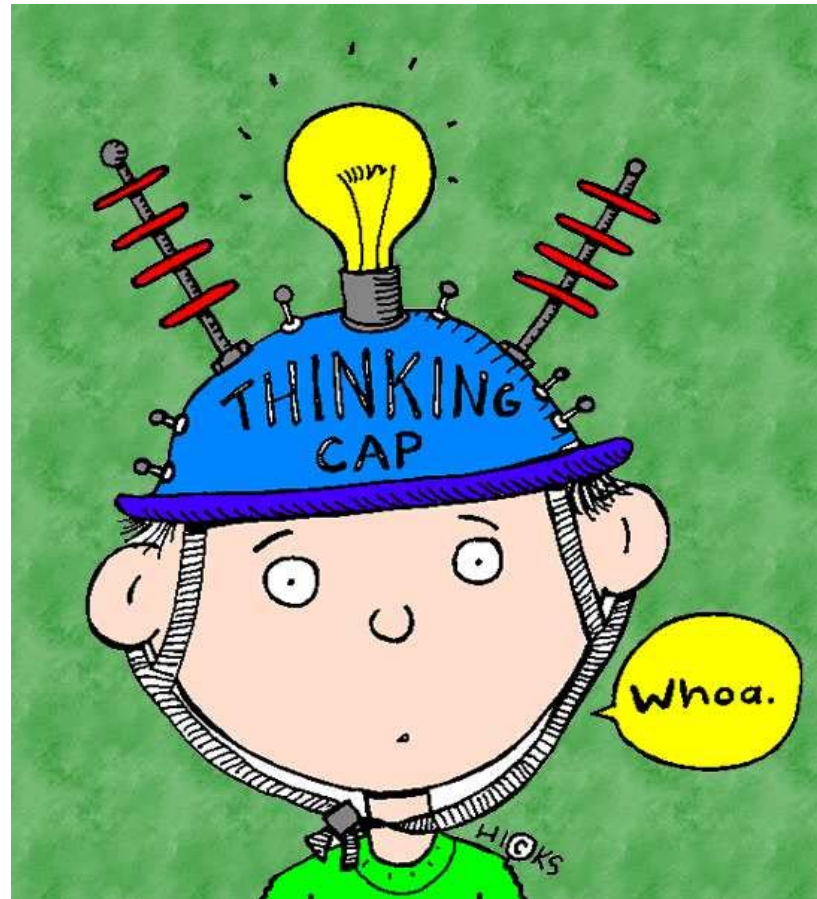
- Be aware of underlying pathologies/co-morbidities
- Understand these patients are seen for short interventions – 3 visits or less
- Therapeutic use of everyday life activities (occupations)
- Focus of treatment is on instruction, education and demonstration by clinician AND return demonstration by patient
- Identify a patient's abilities and limitations with ADL's/occupations



EVALUATION & TREATMENT NON-SURGICAL SPINE

- Observe compensatory movement patterns that may exacerbate pain symptoms
- Instruct in alternative strategies
- Assist patient in achieving the highest possible level of independence

WHAT TO DO NOW???????





NON-SURGICAL SPINE TREATMENT POSTURE

- Sitting – lumbar support, foot rest, vertical alignment; review work station set-up design; sit/stand work stations
- Standing – foot prop, weight shift
- Sleeping – pillow placement for side-lying, supine and stomach sleepers

SITTING POSTURE



STANDING POSTURE



SLEEPING POSITION



NON-SURGICAL SPINE TREATMENT FUNCTIONAL MOBILITY

- Sit to stand transfer (chair, recliner, commode)
- Car transfer
- Tub/shower transfer
- Commode transfer
- Bed Transfer

**PLEASE HAVE PATIENT PRACTICE AND RETURN
DEMONSTRATION**



NON-SURGICAL SPINE TREATMENT

SELF CARE

- Lower extremity dressing – Alternative strategies of cross legs to don/doff socks or tie shoes; foot prop/hip hinge; use of LH reacher, sock aid, LH shoe horn
- Lower extremity bathing – alternative strategies of foot prop/hip hinge; use of LH sponge, LH shower hose, tub seat
- AE/DME

NON-SURGICAL SPINE TREATMENT

PROPER BODY MECHANICS





PROPER BODY MECHANICS

- Safe movement patterns with lifting, carrying and pushing/pulling – RETURN DEMONSTRATION
- Points to keep in mind: test the load, lift with the legs, keep your back in its natural curve, hold objects close to you, avoid twisting, tighten your stomach muscles and avoid bending forward at your waist



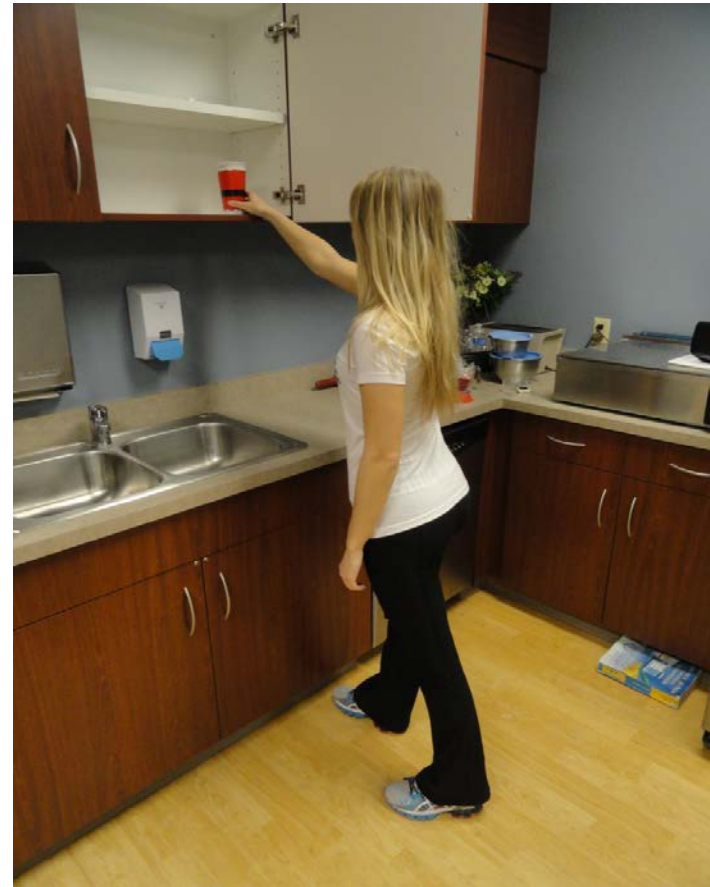
PROPER BODY MECHANICS

- Reaching above and below waist level – stance; hip hinge, golfer's reach
- Upper and lower cabinets
- Loading/unloading washer, dryer, dishwasher
- Household tasks, vacuuming, mopping, sweeping, raking, lawn maintenance, snow removal
- Simulate tasks, movements, patient to practice

OVERHEAD REACHING

Reaching overhead:

- Stagger your stance – one foot forward, one foot back
- Don't reach overhead with feet side by side



GOLFER'S REACH

Golfer's Reach – for reaching below waist level:

- Hold a nearby surface
- Kick one leg back
- Hip hinge versus bending at your waist



PROPER BODY MECHANICS

INCORRECT



CORRECT



PROPER BODY MECHANICS

INCORRECT



CORRECT



BTE #181



- Overhead reach
- Reach below waist level
- Partial squat

BTE #802



- Foot placement
- Weight shift
- Push/pull

BTE #136



- Stance
- Foot placement
- Reaching to all levels

HOUSEHOLD ACTIVITIES

- Sweep
- Mop
- Vacuum
- Gardening/yard-work
- Lawn maintenance/snow removal

OT MANAGEMENT PRE-SURGICAL SPINE



TYPES OF PRE-OP TEACHING

- Individualized OT treatment – 1:1
- STTAR Clinic
- On-line learning
- Videos

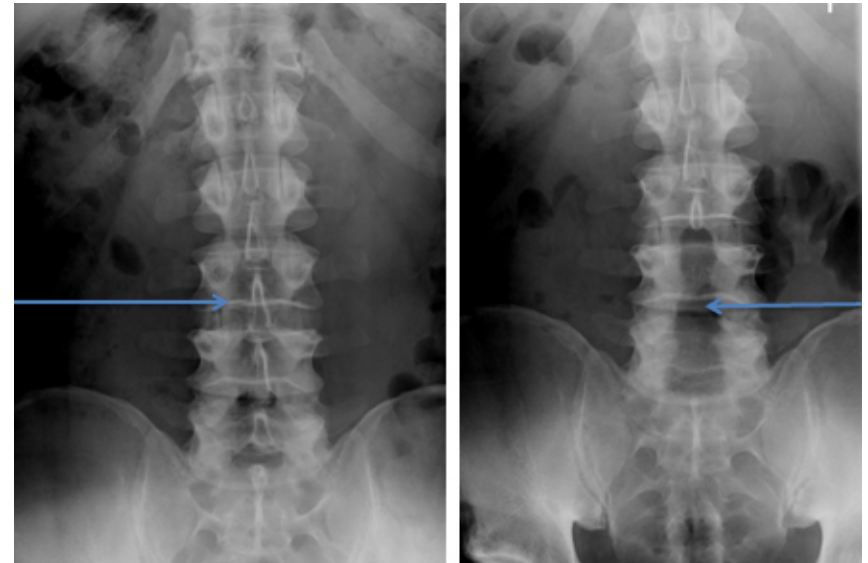
Goal is to instruct and educate patient on what to expect following surgical interventions

PRE-OP TEACHING

- Understand what type of surgery – laminectomy or fusion
- Spine Precautions
- Brace Wear
- Incision Care
- Mobility
- Self Care Management
- Home Safety

LAMINECTOMY

- **Laminectomy** is surgery that creates space by removing the lamina — the back part of a vertebra that covers your spinal canal. Also known as decompression surgery, **laminectomy** enlarges your spinal canal to relieve pressure on the spinal cord or nerves.

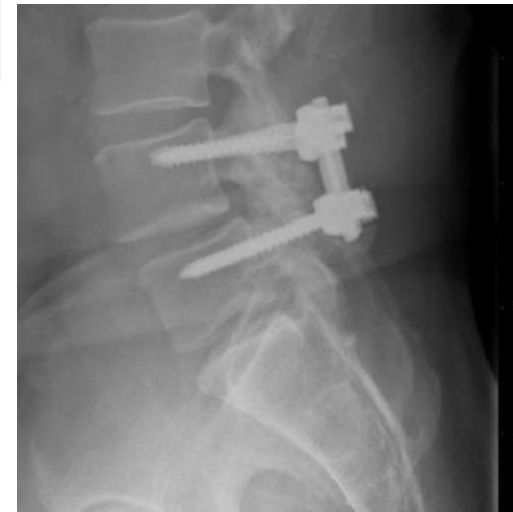


Before

After

FUSION

- Spinal fusion is surgery to permanently connect two or more vertebrae in your spine, eliminating motion between them.
- Spinal fusion involves techniques designed to mimic the normal healing process of broken bones. During spinal fusion, your surgeon places bone or a bonelike material within the space between two spinal vertebrae. Metal plates, screws and rods may be used to hold the vertebrae together, so they can heal into one solid unit.





SPINE PRECAUTIONS

Cervical

- No lifting > 5 lbs
- No overhead reaching
- No resistive arm ex's
- No bending, twisting or bridging
- Wear brace at all times, if surgeon prescribes a brace

Lumbar

- No lifting > 5 lbs
- No forward bending
- Do not sit longer than 30 minutes at a time
- No resistive arm ex's
- Log roll in/out of bed
- Wear brace
- AE for lower extremity dressing

BRACE WEAR

CERVICAL



LUMBAR



INCISION CARE

- Wash hands
- Observe for changes – increased or lasting redness, swelling, warmth, drainage, temperature > 100.5, increased pain
- Do not rub/pick at incision
- Do not apply lotions, creams, powders
- Wear clean, comfortable clothing



MOBILITY

- Sit to stand transfer – Chair
 - Car Transfer
 - Bed Transfer and log roll
 - Commode Transfer – DME
 - Tub/Shower
-
- **Patient to practice and return demonstration**

BASIC ADL'S-BATHING

- Tub Bench
- Long handled sponge
- Long handled shower hose
- Bath mat
- Grab bars
- Product caddy

BASIC ADL'S-DRESSING

CERVICAL

- Button down shirts
- Large “V” Neck openings
- Front closure bras
- Use of dressing stick or long handled reacher

LUMBAR

- Use of long handled reacher, dressing stick, sock aid, elastic shoe laces and long handled shoe horn

HOME SAFETY-GENERAL

- Remove clutter, obstacles, throw rugs
- Proper lighting
- Using DME – bedside commode @ night
- Wear enclosed shoes
- Watch for trip hazards – thresholds
- Keep telephone within reach
- Confine pets
- Healthy habits – diet, fluids, no smoking

HOME SAFETY-BATHROOM

- Towel bars/soap dishes are not grab bars
- Obtain/install grab bars, elevated toilet seat, tub seat/bench, hand held shower head
- Place non-skid strips/mat in tub/shower

WHAT WE LEARNED FROM PRE-OP OCCUPATIONAL THERAPY TEACHING

- 51 patients in calendar year 2017
- Follow up with patients via phone/email
- Pre-op OT visit avg 13 days prior to surgery
- Majority of patients female
- Hospital LOS 2.8 days
- 92% of the patients went home vs SNF/IPR
- All of the patients reported pre-op OT visit beneficial

PATIENT REPORTED BENEFITS OF PRE-OP TEACHING

- Value with practical demonstration in clinic
- Know post-op expectations – do's/don'ts
- Know how to move safely
- Know what equipment is available on how to use
- Understand how to modify home
- Include support systems

OT GUIDELINES SURGICAL SPINE

Anatomy of the Spine

Cervical region – C1 to C7

Supports the weight of the head
(about 10 pounds)

Thoracic region – T1 to T12

Protects the organs of the chest,
attaches to rib cage

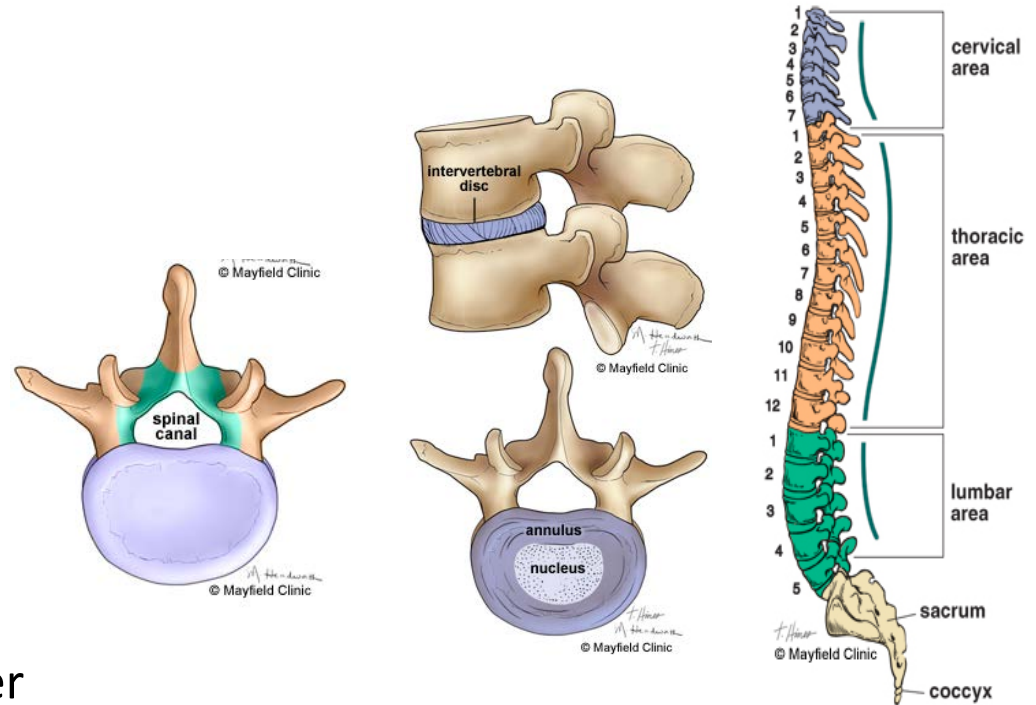
Lumbar region – L1 to L5

Bears the weight of the body

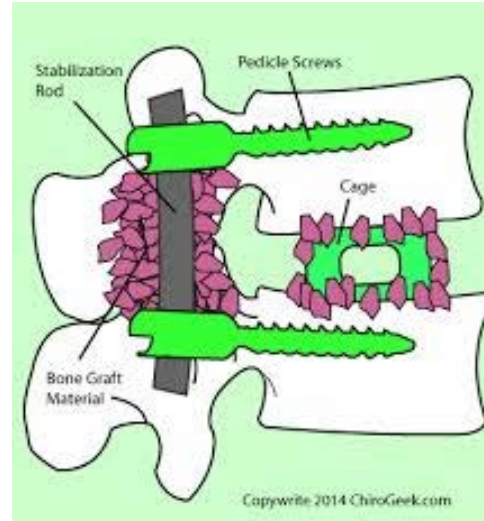
Intervertebral discs

Nucleus pulposus – gel-filled center

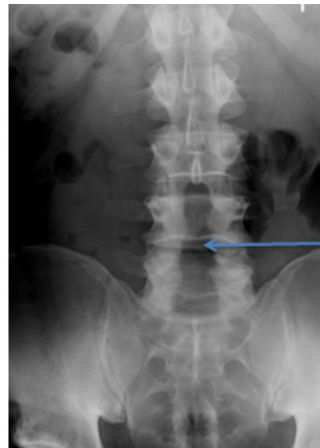
Discs function like coiled springs



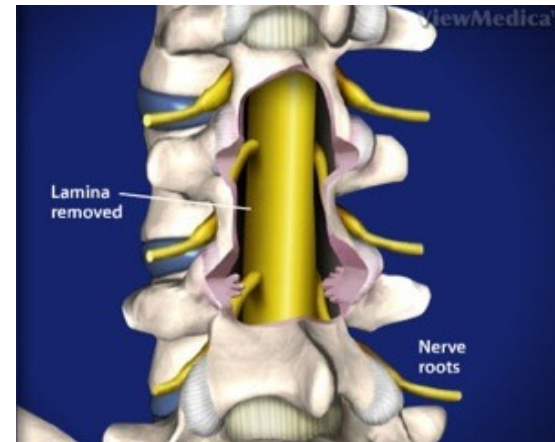
Spinal Surgery



Before



After





OT GUIDELINES SURGICAL SPINE

- Understand surgical procedures; cervical or lumbar; laminectomy vs fusion; how many levels
- Be aware of current precautions for cervical/lumbar
- Review past medical and surgical history; what are co-morbidities
- Home Environment
- Support Systems



CERVICAL & LUMBAR SURGICAL SPINE POST ACUTE

- Evaluation
- Assess for AE/DME
- Establish goals/home needs
- Establish a treatment plan
- Educate on safety with functional transfer
- Educate on limitations
- Educate on incision care and toileting
- Assess home environment and caregiver support

OT TREATMENT AND TEACHING STRATEGIES

- Purpose of OT treatment
- No BLT's with pickles
- No sitting for more than 30 minute intervals-lumbar
- Instruct in use of cervical collar and back brace
- Assess patient's ability to don/doff properly
- Instruct in proper body mechanics, proper posture, log roll, bed mobility, self positioning

OT TREATMENT AND TEACHING STRATEGIES - CONTINUED

- Assess ADL completion – bathing, dressing, etc
- Instruct and demonstrate the use and benefit of AE/DME for ADL completion – patient to practice
- Review post-op precautions
- Educate on care for incision site – hand hygiene

ACTIVITIES/EXERCISES TO AVOID

- No repetitive or resistive UE ex's (even if < 5 lbs or no resistance)
- No arm bike
- No UBE
- No Towel/dowel ex's
- No use of weights for UE
- Avoid lumbar ROM ex's/ankle to knee



POST ACUTE - TRANSITIONAL TREATMENT PHASE

- Reinforce cervical & lumbar precautions, posture, transfers, brace wear, incision care.
- Review and practice with AE/DME
- Modified BADL – sit or stand (brush teeth, wash face, comb hair); use cups to rinse and spit into, wash cloths to wash face, hand held mirror for applying make-up or contacts
- Evaluate home situation and caregiver support

WHEN TO START OUT-PATIENT TREATMENT

- Lumbar Laminectomy – 4-6 weeks
- Lumbar Fusion – 10-12 weeks
- Cervical Laminectomy – 4 weeks
- Cervical Fusion – 6 weeks

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| <input type="checkbox"/> Coordination Training | <input type="checkbox"/> Work Station Analysis |
| <input type="checkbox"/> ROM/Strengthening | <input type="checkbox"/> Splinting _____ |
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| <input type="checkbox"/> Work Simplification/ Energy conservation | |

I certify/ recertify, that I have examined the patient and Occupational Therapy is necessary. These services will be rendered while the patient is under my care. The plan is established and will be reviewed every thirty days, or more often if patient's condition requires.

Physician's Signature

Date

Physician's Printed Name

OUT-PATIENT OT TREATMENT STRATEGIES

- Collaboration with Physical Therapy-Cross Referral
- Review proper posture – sit, stand, sleep
- Review transfers
- Review self care management strategies with and without AE
- Instruct in PBM or alternative strategies for reaching, lifting, carrying, pushing, pulling

OUT-PATIENT OT TREATMENT STRATEGIES - CONTINUED

- Energy conservation
- Joint protection principles
- Discuss critical job demands, leisure interests, household duties, outdoor tasks, child care, etc.

PATIENT TO PRACTICE AND RETURN
DEMONSTRATION



GOALS OF THERAPY

- Increase ease and independence with ADL's
- Return to maximum, medical improvement not prior functional level
- Treatment – short interventions, frequent episodes
- Collaborative approach with Physician and PT

Membership AOTA & MiOTA

Essential to the survival of our profession!



MiOTA

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QUESTIONS

Beaumont
HEALTH