

After reading each case, state whether you will treat, treat and refer, or refer only. If your plan is to refer, please comment on when the patient should be seen by their physician (i.e., today, next few days, etc.). Provide a brief rationale for your answer.

Case 1. 65-year-old man with a history of COPD and significant cigarette smoking complains of bilateral buttocks cramping associated with stair climbing beginning about 6 months ago. Over the past 2 months, the cramping has become associated with walking as well. When he stops walking and stands still, the cramping decreases and then disappears. No reflex or sensory changes are detected, and the pain is not affected by trunk flexion or extension.

Case 2. A 35-year-old woman who is healthy and an occasional jogger complains of pain in the anterolateral aspect of the forefoot starting about 3 days ago. The pain started when she was running and is exacerbated by any weight bearing. There is moderate tenderness to palpation; no swelling or redness is noted. Foot and ankle ROM are grossly WNL.

Case 3. A 40-year-old woman who is healthy, but inactive, complains of sudden onset of low back pain after slipping off a curb and nearly falling. The pain increases with movement and is relieved with lying down. There is no motor or sensory loss. The patient reports some moderate muscular tenderness to palpation in the thoracic area on the right side.

Case 4. 39-year-old woman complains of 6–9 months of intermittent dull aching in the posterior cervical, occipital, and interscapular areas. There is local muscular tenderness and pain with movement. ROM of the neck is slightly decreased. There is no dizziness, radiation of pain to the upper limbs, or motor or sensory loss.

Case 5. 60-year-old man who apparently is healthy, but inactive, complains of sudden onset of pain in the right knee with no known precipitating incident. The joint is very tender, warm, and red. ROM is painful and decreased. No other previous or current joint complaints are reported.

Case 6. A 65-year-old man, former football player and current tennis player, complains of bilateral knee pain, worsening over the last 6 months. The pain is affecting his leisure activities as it increases with activity and movement. He reports a feeling of grinding in his knee. No swelling is noted, and the ROM is WNL.

Case 7. An 80-year-old, active but frail woman fell on a rug in her apartment and landed on her outstretched hands. She complains of tenderness over the lateral aspect of the right wrist and distal forearm, and a bony deformity is palpable. Her wrist is swollen and painful, with decreased ROM.

Case 8. A 17-year-old girl complains of knee pain following an injury that occurred when she was running in from the outfield during a softball game and stepped in a hole. She was unable to compete in the remainder of the game. The medial aspect of the knee is generally tender to palpation and slightly swollen. Pain is increased at the ends of the ROM and with valgus stress. No complaints of knee locking.

Case 9. A 70-year-old man complains of a dull, aching, constant thoracolumbar pain that has been increasing over the past 2 days. The pain is aggravated by general activity, but no particular posture or movement of the trunk increases or decreases the pain more than another. Pain is not radiating, and no sensory or motor changes are noted.

Case 10. A 53-year-old woman with a fairly sedentary lifestyle complains of a sudden onset of deep, dull, aching pain in the center of the chest, aggravated by movement of the left arm. She cannot identify a precipitating incident or injury. The pain is not radiating, and there is extreme tenderness to palpation lateral to the sternum. Coughing and sneezing increase the pain.

Case 11. A 55-year-old woman complains of constant, intense aching back pain subcostally on the right side over the past 2–3 days. The pain radiates along the iliac crest on the right side. She cannot identify a precipitating incident or injury. The pain is not affected by positional changes or the use of a heating pad.

Case 12. A 45-year-old man complains of mild-to-moderate, deep thoracic back pain that is preventing his sleeping at night. The pain is intermittent but has increased over the past 2 weeks and is not relieved by positional changes. It seems to be worse at night than during the day. The patient complains of fatigue that he attributes to not sleeping well.

For each case, estimate the probability that the patient has a symptomatic deep vein thrombosis (DVT) of the lower extremity. Your 3 probability options are “low,” “moderate,” and “high”: *low probability* indicates that the probability of DVT is 5% or less, *moderate probability* indicates that the probability of DVT is greater than 5% but less than 25%, and *high probability* is a 25% or greater likelihood of DVT. Then state if you would contact the referring physician today about this patient’s condition. Provide a brief rationale for your answer.

Case 1. You are seeing a 53-year-old woman requiring management of chronic left knee pain associated with an automobile injury 6 months ago. She also complains of moderate left calf pain and swelling that she first noticed 3 days ago. She reports she had swelling in her knee in the past but does not remember if the swelling was in her calf. She was unaware of what caused the calf pain. She had left calf swelling that measured 3.5 cm larger than the right calf, and she had tenderness in the posterior calf region. The patient has no other medical problems, no pitting edema, and no history of deep vein thrombosis (DVT).

Case 2. Your patient is a 75-year-old woman who is being seen for follow-up evaluation of her right-sided total hip replacement 4 weeks ago. This is the first time you have seen her since she was discharged from the hospital. She did take anticoagulation therapy while in the hospital. She has some mild swelling in her calf and thigh that has been present since her surgery on her affected side, and she is ambulating short distances with a walker. She also has some calf and thigh pain that she rates as mild. There is no tenderness in the posterior calf region and no pitting edema present. She has no cardiac or lung disease and no history of DVT.

Case 3. You are seeing a 63-year-old retired man who had been discharged from the hospital for a surgically repaired supracondylar fracture of the humerus 1 month earlier. He did not take anticoagulants after the procedure. Currently, in addition to his shoulder pain, he complains of moderate left calf pain and swelling during the past week. He is ambulatory and has no history of DVT, leg trauma, or unusual physical activity. He denies having chest pain, shortness of breath, or dizziness, although he does have mild congestive heart failure that is controlled by medication. The left calf measures 2 cm larger than the right calf, and there is slight swelling in the thigh. No evidence of pitting edema was found. Homans sign is negative.

Case 4. You are seeing a 41-year-old woman who had an arthroscopic anterior cruciate ligament reconstruction 7 days ago for an old tennis injury. She did not receive postoperative anticoagulation therapy. Since her surgery she has essentially been in bed or sitting in a chair. She reports that for the past 2 days she has had some discomfort in her calf, and the involved leg is noticeably swollen (>3 cm at mid-calf). She has some tenderness in the posterior calf region but no evidence of pitting edema. The patient is otherwise healthy and has no history of DVT.

Case 5. Your patient is a 52-year-old woman who complains of a 1-week history of right calf pain. She underwent an L5 discectomy for low back and right leg pain 2 months ago. She did not take anticoagulants after the procedure. She had an uneventful recovery and was walking 3 days after surgery. The patient reports her right calf began bothering her a few days ago, and she believes this pain might be different from the pain associated with her low back problem. She has been gradually walking longer distances and does not remember hurting her calf. Her right lower extremity is mildly swollen with pitting edema in the calf. The Homans sign is negative. She has tenderness in the calf region. She is otherwise healthy and has never had a DVT.

Case 6. A 52-year-old man who underwent a Brostrom procedure 7 weeks ago for chronic left ankle instability comes to you complaining of left-sided calf pain that started insidiously about 3 days ago. He received postoperative anticoagulation therapy. The cast was removed 1 week ago, and the patient has been partial weight bearing for a few days. There is evidence of calf (3.5 cm) and thigh swelling, and the patient has tenderness in the posterior calf region. There is evidence of pitting edema in the calf that was not present prior to surgery. No other medical problems or complaints were noted, and no history of DVT was reported.

ETHNIC: A FRAMEWORK FOR CULTURALLY COMPETENT CLINICAL PRACTICE

- E: Explanation**
- What do you think may be the reason you have these symptoms?
- What do friends, family, others say about these symptoms?
- Do you know anyone else who has had or who has this kind of problem?
- Have you heard about/read/seen it on TV/radio/newspaper?
(If patient cannot offer explanation, ask what most concerns them about their problems).
- T: Treatment**
- What kinds of medicines, home remedies or other treatments have you tried for this illness?
- Is there anything you eat, drink, or do (or avoid) on a regular basis to stay healthy? Tell me about it.
- What kind of treatment are you seeking from me?
- H: Healers**
- Have you sought any advice from alternative/folk healers, friends or other people (non-doctors) for help with your problems? Tell me about it?
- N: Negotiate**
- Negotiate options that will be mutually acceptable to you and your patient and that do not contradict, but rather incorporate your patient's beliefs.
- Ask what are the most important results your patient hopes to achieve from this intervention.
- I: Intervention**
- Determine an intervention with your patient. May include incorporation of alternative treatments, spirituality, and healers as well as other cultural practices (e.g. foods eaten or avoided in general, and when sick).
- C: Collaboration**
- Collaborate with the patient, family members, other health care team members, healers and community resources.

Levin, SJ, Like, RC, and Gottlieb, JE. ETHNIC: A framework for culturally competent clinical practice. In Appendix: Useful clinical interviewing mnemonics. Patient Care 2000; 34(9):188-189.

BATHE: A USEFUL MNEMONIC FOR ELICITING THE PSYCHOSOCIAL CONTEXT

B: BACKGROUND

A simple question. "What is going on in your life?" elicits the context of the patient's visit.

A: AFFECT

(The feeling state) Asking "How do you feel about what is going on?" or "What is your mood?" allows the patient to report and label the current feeling state.

T: TROUBLE

"What about the situation troubles you the most?" helps the physician and patient focus, and may bring out the symbolic significance of the illness or event.

H: HANDLING

"How are you handling that?" gives an assessment of functioning and provides direction for an intervention.

E: EMPATHY

"That must be very difficult for you" legitimizes the patient's feelings and provides psychological support.

From: Stuart, M.R. and Lieberman, J.A III. The Fifteen Minute Hour: Practical Therapeutic Interventions in Primary Care, 3rd Edition. Philadelphia: Saunders, 2002.

The Keele STarT Back Screening Tool

Patient name: _____ Date: _____

Thinking about the **last 2 weeks** tick your response to the following questions:

	Disagree 0	Agree 1
1 My back pain has spread down my leg(s) at some time in the last 2 weeks	<input type="checkbox"/>	<input type="checkbox"/>
2 I have had pain in the shoulder or neck at some time in the last 2 weeks	<input type="checkbox"/>	<input type="checkbox"/>
3 I have only walked short distances because of my back pain	<input type="checkbox"/>	<input type="checkbox"/>
4 In the last 2 weeks, I have dressed more slowly than usual because of back pain	<input type="checkbox"/>	<input type="checkbox"/>
5 It's not really safe for a person with a condition like mine to be physically active	<input type="checkbox"/>	<input type="checkbox"/>
6 Worrying thoughts have been going through my mind a lot of the time	<input type="checkbox"/>	<input type="checkbox"/>
7 I feel that my back pain is terrible and it's never going to get any better	<input type="checkbox"/>	<input type="checkbox"/>
8 In general I have not enjoyed all the things I used to enjoy	<input type="checkbox"/>	<input type="checkbox"/>

9. Overall, how **bothersome** has your back pain been in the **last 2 weeks**?

Not at all

0

Slightly

0

Moderately

0

Very much

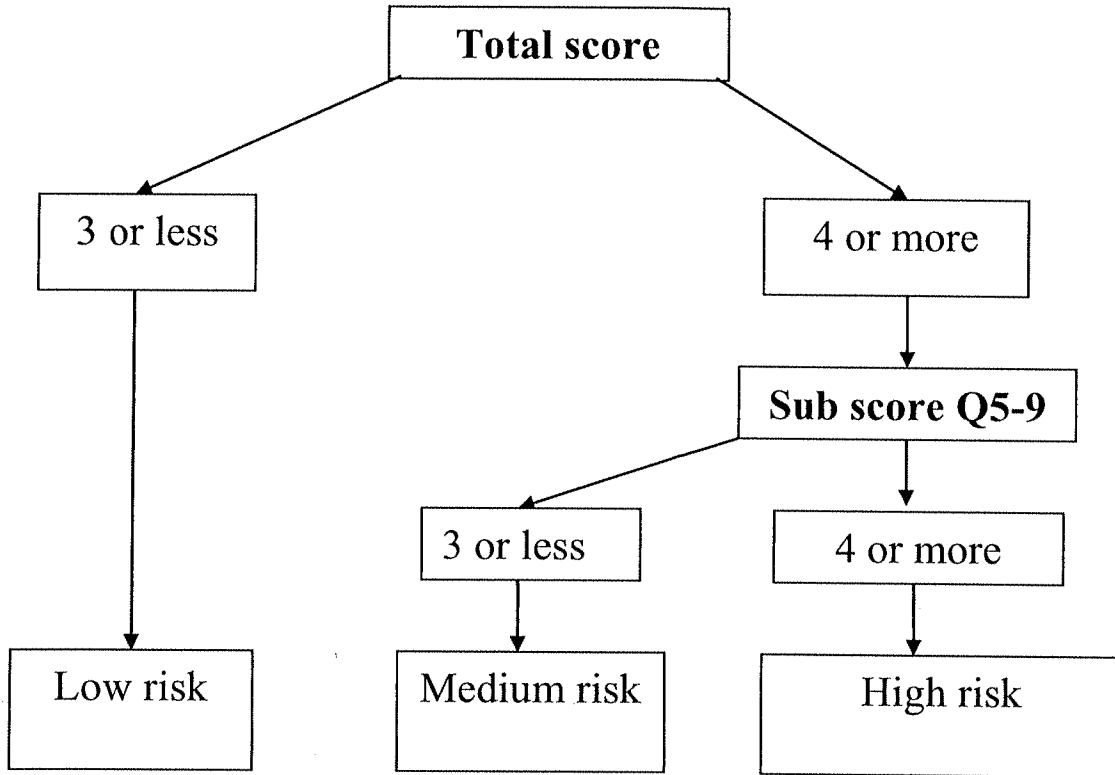
1

Extremely

1

Total score (all 9): _____ Sub Score (Q5-9): _____

The STarT Back Tool Scoring System



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Funded by Arthritis Research UK

Selected Conventional Radiology Exams

SPINE	
C-spine: Basic study	AP, lat, open mouth (include oblique views for imaging the neural foramen, i.e., radicular symptoms)
Lower C-spine	Swimmer's view
L-spine: Basic study	AP, lateral, coned view (include oblique views for suspected pars injury)
Multiple trauma	Lat C-spine, chest film, AP pelvis

SHOULDER	
Basic study	AP IR/ER
Subacromial View	Scapular outlet view (impingement syndrome)
Basic study (ortho)	True AP, scapular outlet, axillary
Scapula fx	Transscapular Y
AC joint	AP stress view (bilateral comparison)
Shoulder dislocation	AP IR/ER, plus axillary or transscapular Y
Hill Sachs	AP with IR
Bankart	Axillary

ELBOW	
Basic Study	AP, lat
Radial head	External oblique, radial head projection (for fx)

WRIST/HAND	
Basic Study	PA, lat, oblique
Scaphoid fx	Scaphoid view in addition to above

PELVIS/HIPS	
Basic study (hips)	AP, lateral frogleg (may get AP of pelvis for bilateral comparison)
Pelvic/hip trauma	AP, cross table lateral, inlet/outlet Judet
Hip dislocation	AP pelvis, AP and lat hip, post reduction AP and lat hip
Femur fx	AP pelvis, AP and cross lateral femur

KNEE	
Basic study	AP, lateral
Trauma	AP, lateral, 2 obliques, tunnel
Patella sublux	Sunrise (or Merchant)
Patellar articular facets	Merchant (or sunrise)
Tibial plateau fx	CT

ANKLE/FOOT	
Basic study (ankle)	AP, lateral, mortise
Joint instability (ankle)	AP, lateral, mortise, stress views
Basic study (foot)	AP, lateral

General Indications for Advanced Diagnostic Imaging

Note: MRI = magnetic resonance imaging, CT = computed tomography, NM = nuclear medicine (bone scan); ++ = first choice; + = second choice (must be determined on a case-by case basis); (adapted from Bussi eres et al, 2007)

Indications	MRI	CT	NM
Evaluation of frank neurological signs – central and peripheral nervous system	++	+	
Evaluation of spinal pathology	++	+	
Internal joint derangements (ligaments, menisci, articular cartilage, labral pathology)	++		
Inflammatory arthritis	+	+	+
Evaluation of soft tissue injury (including muscle injuries), tendon pathology, calcified bursitis	++		
Osteomyelitis	++	+	++
Fluid collections or infections in joints or extraarticular soft tissues; unexplained soft tissue mass	++		
Osteonecrosis	++	+	+
Complicated fractures	+	++	
Suspected stress, occult fracture	+	+	++
Complicated disease processes or findings unexplained by more conservative tests	+	+	
Evaluation of possible neoplasm detected on conventional radiographs	++	+	
Determining skeletal distribution of neoplasms or other multifocal skeletal disease			++

Review of Systems

I. General Health

- a. Fatigue
- b. Fever/chills/sweats
- c. Nausea/vomiting
- d. Weight change
- e. Paresthesia, weakness, or balance problems (dizziness)
- f. Malaise
- g. Mentation/cognition

II. Cardiovascular System

- a. Dyspnea
- b. Palpitations
- c. Pain w/sweats
- d. Syncope
- e. Peripheral edema
- f. Cough

III. Pulmonary System

- a. Dyspnea
- b. Cough
- c. Sputum
- d. Wheezing
- e. Clubbing of nails

IV. Gastrointestinal System

- a. Difficulty swallowing
- b. Heartburn or indigestion
- c. Specific food intolerances
- d. Change in appetite
- e. Bowel dysfunction
 - Constipation/diarrhea
 - Color
 - Shape
 - Frequency
 - Difficulty initiating
 - Incontinence

I: screened for all patients

II, III, IV (upper GI): shoulder/cervical spine pain

V. Urinary System

- a. Frequency
- b. Reduced force of urine stream
- c. Difficulty initiating urine stream
- d. Dysuria
- e. Color
- f. Incontinence

VI. Genital Reproductive System

Male

- a. Discharge
- b. Impotence
- c. Pain with intercourse

Female

- a. Discharge
- b. Pain with intercourse
- c. Change in menstruation
 - Freq and length of cycle
 - Dysmenorrhea
 - Blood flow
- d. Date of last period
- e. Number of pregnancies
- f. Number of deliveries
- g. Menopause

VII. Skin Inspection

- a. Asymmetry
- b. Border
- c. Color
- d. Diameter

II, III, IV, V (T-L junction): thoracic spine pain

IV, V, VI: lumbosacral pain

1. What common problem must all newborns be examined for?
2. What is a compartment syndrome?
3. Acute septic arthritis of the knee may be differentiated from inflammatory arthritis by which laboratory test?
4. A patient dislocates his knee in a car accident. What structure(s) is/are at risk for injury and therefore must be evaluated?
5. A patient punches his companion in the face and sustains a fracture of the 5th metacarpal and a 3-mm break in the skin over the fracture. What is the correct treatment, and why?
6. A patient comes to the office complaining of low-back pain that wakes him up from sleep. What two diagnoses are you concerned about?
7. How is compartment syndrome treated?
8. A patient lands on his hand and is tender to palpation in the "snuff box" (the space between the thumb extensor and abductor tendons). Initial radiographs do not show a fracture. What diagnosis must be considered?
9. A 25-year-old male is involved in a motor-vehicle accident. His left limb is in a position of flexion at the knee and hip, with internal rotation and adduction of the hip. What is the most likely diagnosis?
10. What nerve is compressed in carpal tunnel syndrome?
11. A patient has a disc herniation pressing on the 5th lumbar nerve root. How is motor function of the 5th lumbar nerve root tested?

12. How is motor function of the median nerve tested in the hand?
13. A 12-year-old boy severely twists his ankle. Radiographs show only soft-tissue swelling. He is tender at the distal aspect of the fibula. What are 2 possible diagnoses?
14. A patient presents with new-onset low-back pain. Under what conditions are plain radiographs indicated? Please name 5 (example: history of trauma).
15. A patient has a displaced fracture near the fibular neck. What structure is at risk for injury?
16. A 20-year-old injured his knee while playing football. You see him on the same day, and he has a knee effusion. An aspiration shows frank blood. What are the three most common diagnoses?
17. What are the five most common sources of cancer metastatic to bone?
18. Name two differences between rheumatoid arthritis and osteoarthritis.
19. Which malignancy may be present in bone yet typically is not detected with a bone scan?
20. What is the function of the normal anterior cruciate ligament at the knee?
21. What is the difference between osteoporosis and osteomalacia?
22. In elderly patients, displaced fractures of the femoral neck are typically treated with joint replacement, whereas fractures near the trochanter are treated with plates and screws. Why?
23. What muscle(s) is/are involved in lateral epicondylitis (tennis elbow)?
24. Rupture of the biceps at the elbow results in weakness of both elbow flexion and _____?
25. What muscle(s) control(s) external rotation of the humerus with the arm at the side?

The patient was a 26-year-old female child care worker with a 12-month history of back pain and a 4-month history of unremitting left leg symptoms. She had clinical and radiological evidence of an L5–S1 disk extrusion with associated left S1 radiculopathy. The patient scored 48% on the Oswestry Low Back Pain Disability Questionnaire and she had not worked in the past 3 months due to her symptoms. There was a possible indication of psychosocial distress with her reported symptoms and a moderate level of fear-avoidance beliefs. Please review the patient considerations below and describe how you would address the patient's concerns. In addition to discussing your strategy, please also provide the purpose of your strategy.

After 3 treatment sessions, the patient expressed concern regarding ongoing back and leg pain (the pain had not increased, but had not improved).

After 6 treatment sessions, the patient reported some depression following breaking up with her partner. This had the potential to distract her from the program and reduce motivation and adherence.

After 10 treatment sessions, the patient asked if it was safe for her to visit the beach with friends on the weekend.

After 8 weeks of intervention, the patient was involved in a motor car accident and demonstrated anxiety regarding potential exacerbation of her back injury.

Background and Purpose. The effectiveness of functional restoration (FR) for patients with lumbar disk herniation with associated radiculopathy (LDHR) is unclear. This case report describes how an FR program was used to rehabilitate a patient with such an injury. **Case Description.** The patient was a 26-year-old female child care worker with a 12-month history of back pain and a 4-month history of unremitting left leg symptoms. She had clinical and radiological evidence of an L5–S1 disk extrusion with associated left S1 radiculopathy. **Interventions.** The patient completed a 9-week FR program supervised by a physical therapist. Exercises then were continued more independently for a 2-year period at a public gymnasium. **Outcomes.** Following 9 weeks of supervised FR, the patient demonstrated marked improvement in symptoms and functional ability, and resolution of neurological signs. Fourteen months after commencing FR, a follow-up magnetic resonance imaging scan demonstrated resolution of the L5–S1 disk extrusion and relief of S1 nerve root compression. Functional improvements continued and were maintained 2 years following the start of intervention. **Discussion.** A patient with chronic LDHR who underwent FR made significant improvements. Research is needed to determine the efficacy of an FR approach for treating such patients.

After 3 treatment sessions, the patient expressed concern regarding ongoing back and leg pain (the pain had not increased, but had not improved). How would you advise the patient at this point (attempting to minimize fear-avoidance beliefs) and why?

After 4 treatment sessions, the patient reported some depression following breaking up with her partner. This had the potential to distract her from the program and reduce motivation and adherence. How would you advise the patient at this point (attempting to minimize fear-avoidance beliefs) and why?

After 6 treatment sessions, the patient asked if it was safe for her to visit the beach with friends on the weekend. How would you advise the patient at this point (attempting to minimize fear-avoidance beliefs) and why?

After 8 weeks of intervention, the patient was involved in a motor car accident and demonstrated anxiety regarding potential exacerbation of her back injury. How would you advise the patient at this point (attempting to minimize fear-avoidance beliefs) and why?

Name: _____ SSN: _____ Date: _____

Leisure activities, including exercise routines: _____

Occupation, including activities that comprise your workday: _____

Age: _____ Height: _____ Weight: _____
Are you on a work restriction from your doctor? Yes No Are you latex sensitive? Yes No
Do you smoke? Yes No Do you have a pacemaker? Yes No
FOR WOMEN: Are you currently pregnant or think you might be pregnant? Yes No
ALLERGIES: List any medication(s) you are allergic to: _____

Have you RECENTLY noted any of the following (check all that apply)?

- | | | |
|---|---|--|
| <input type="checkbox"/> fatigue | <input type="checkbox"/> headaches | <input type="checkbox"/> constipation |
| <input type="checkbox"/> fever/chills/night sweats | <input type="checkbox"/> dizziness/lightheadedness | <input type="checkbox"/> diarrhea |
| <input type="checkbox"/> nausea/vomiting | <input type="checkbox"/> easy bruising | <input type="checkbox"/> shortness of breath |
| <input type="checkbox"/> weight loss/gain | <input type="checkbox"/> heartburn/indigestion | <input type="checkbox"/> fainting |
| <input type="checkbox"/> difficulty maintaining balance while walking | <input type="checkbox"/> difficulty swallowing | <input type="checkbox"/> cough |
| <input type="checkbox"/> falls | <input type="checkbox"/> changes in bowel or bladder function | <input type="checkbox"/> chest pain at rest |
| <input type="checkbox"/> numbness or tingling | <input type="checkbox"/> sustained morning stiffness | <input type="checkbox"/> night pain |
| <input type="checkbox"/> muscle weakness | <input type="checkbox"/> changes in menstruation | <input type="checkbox"/> changes in vision |

Have you EVER been diagnosed with any of the following conditions (check all that apply)?

- | | | |
|---|---|--|
| <input type="checkbox"/> cancer | <input type="checkbox"/> depression | <input type="checkbox"/> thyroid problems |
| <input type="checkbox"/> heart problems | <input type="checkbox"/> lung problems | <input type="checkbox"/> diabetes |
| <input type="checkbox"/> chest pain/angina | <input type="checkbox"/> tuberculosis | <input type="checkbox"/> osteoporosis |
| <input type="checkbox"/> high blood pressure | <input type="checkbox"/> asthma | <input type="checkbox"/> multiple sclerosis |
| <input type="checkbox"/> circulation problems | <input type="checkbox"/> rheumatoid arthritis | <input type="checkbox"/> epilepsy |
| <input type="checkbox"/> blood clots | <input type="checkbox"/> other arthritic condition | <input type="checkbox"/> eye problem/infection |
| <input type="checkbox"/> stroke | <input type="checkbox"/> bladder/urinary tract infection | <input type="checkbox"/> ulcers |
| <input type="checkbox"/> anemia | <input type="checkbox"/> kidney problem/infection | <input type="checkbox"/> liver problems |
| <input type="checkbox"/> bone or joint infection | <input type="checkbox"/> sexually transmitted disease/HIV | <input type="checkbox"/> hepatitis |
| <input type="checkbox"/> chemical dependency (i.e., alcoholism) | <input type="checkbox"/> pelvic inflammatory disease | <input type="checkbox"/> pneumonia |

Has anyone in your immediate family (parents, brothers, sisters) EVER been diagnosed with any of the following conditions (check all that apply)?

- | | | |
|--|-------------------------------------|---|
| <input type="checkbox"/> cancer | <input type="checkbox"/> diabetes | <input type="checkbox"/> tuberculosis |
| <input type="checkbox"/> heart problems | <input type="checkbox"/> stroke | <input type="checkbox"/> thyroid problems |
| <input type="checkbox"/> high blood pressure | <input type="checkbox"/> depression | <input type="checkbox"/> blood clots |

During the past month have you been feeling down, depressed or hopeless? YES NO

During the past month have you been bothered by having little interest or pleasure in doing things? YES NO

Is this something with which you would like help? YES YES, BUT NOT TODAY NO

Do you ever feel unsafe at home or has anyone hit you or tried to injure you in any way? YES NO

Please list any medications you are currently taking (INCLUDING pills, injections, and/or skin patches):

1. _____ 2. _____ 3. _____

Have you ever taken steroid medications for any medical conditions? YES NO

Have you ever taken blood thinning or anticoagulant medications for any medical conditions? YES NO

Please list any surgeries or other conditions for which you have been hospitalized, including dates:

1. _____ 2. _____ 3. _____

What date (roughly) did your present symptoms start? _____

What do you think caused your symptoms? _____

My symptoms are currently: Getting Better Getting Worse Staying about the same

I should not do physical activities that might make my pain worse: Disagree Unsure Agree

Do you expect to return to the activity levels you were at prior to developing these symptoms? Yes No

Treatment received so far for this problem (chiropractic, injections, etc) _____

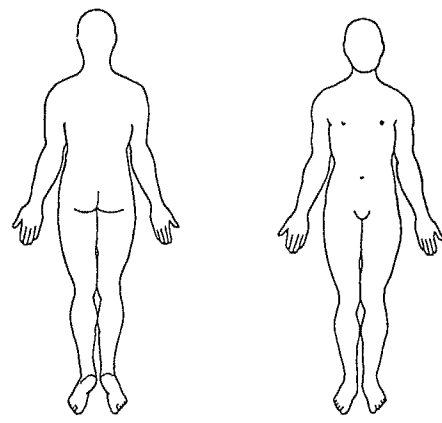
Please list special tests performed for this problem (x-ray, MRI, labs, etc) _____

Have you ever had this problem before: Yes No When _____ Treatment rec'd _____

How long did it take for you to feel better? _____

Body Chart:

Please mark the areas where you feel symptoms on the chart to the right with the following symbols to describe your symptoms:



- ↓ Shooting/sharp pain
- Dull/aching pain
- ||| Numbness
- = Tingling

My symptoms currently: Come and go Are Constant Are constant, but change with activity

Aggravating Factors: Identify up to 3 important positions or activities that make your symptoms worse:
1. _____
2. _____
3. _____

Easing Factors: Identify up to 3 important positions or activities that make your symptoms better:
1. _____
2. _____
3. _____

How are you currently able to sleep at night due to your symptoms?
 No problem sleeping Difficulty falling asleep Awakened by pain Sleep only with medication

When are your symptoms worst? Morning Afternoon Evening Night After exercise
When are your symptoms the best? Morning Afternoon Evening Night After exercise

Using the 0 to 10 the scale, with 0 being "no pain" and 10 being the "worst pain imaginable" please describe:

Your current level of pain while completing this survey: _____

The best your pain has been during the past 24 hours: _____

The worst your pain has been during the past 24 hours: _____

Review of Systems

I. Screening for Medical Referral

(*Adapted from W. Boissonnault, P.T., DHSc)

- When should a PT consult or refer to another health care provider?
- Today's practice requires PT's to be able to recognize the clinical manifestations of occult problems.
- PT role to screen on a systems level and MD's role then to rule in or out specific diseases
- Medical Referral Principles: identify risk factors (questionnaire), atypical S&S, R.O.S. (Hx taking), and Systems Review (Physical Exam)

A. Appendix A

Review of Systems

General Health vs. System Specific

- all patients utilize general health checklist (see checklist)

1. Fatigue: sense of weariness, loss of energy marked by change in the ability to function at home, work, school, socially. Often duration of 2 or more weeks. (Depression, anxiety, infection, malignancy, endocrine disorder, rheumatic disorders, heart failure, chronic lung, liver or kidney dz, anemia, nutritional deficits, adverse drug reactions, electrolyte imbalances)
2. Malaise: feeling sense of lethargy, discomfort, and general weakness. (Systemic illness) – pt. states, “I feel like I have the flu but I don’t.” – often 2 weeks or longer
3. Weakness: demonstrable loss of muscular power related to activity/functional ability. (Neurologic disorders, endocrine disorders, muscular injury or disease, rheumatic disorders)
4. Chills/sweats/fever: sig. if 100 degrees or greater for more than 2 weeks (occult infections, metastatic cancer, rheumatic disorders) – often if viral, 2 weeks to resolve
5. Weight Loss or gain: 5% increase or decrease of BW over a 4 week period unexplained*. (Infections, metastatic cancers, depression, rheumatic or endocrine disorders). (CHF – 2-3# change in wt. gain a day = red flag)
6. Nausea: (infections, adverse drug reactions, GI disorder) – longevity required – is it a MED?, Pregnant?
7. Paresthesia/Numbness: (Neurologic disorders, endocrine disorders, renal dz., adverse drug reactions) – nondermatomal, multiple spinal roots, > 1 extremity, multiple peripheral n. distribution from multiple spinal n. roots/levels.
8. Change in Mentation/cognitive abilities: (Infection, neurologic disorders, vascular disorders, adverse drug reaction) –corroborate with pt./caregiver – initial observation.

**With a “YES” answer, must determine:

1. Is there an explanation for it?
2. What is the duration of the symptom?
3. Have they mentioned this to a physician?
4. If a physician is aware of it, has it become worse?

III. Review of Systems

A. Skin

- all patients/ongoing
- pallor/blue – absence of pigment, blood abnormality
- cyanosis/blue – decreased O₂ in blood
- jaundice/yellow – excess bilirubin (sclera of eyes commonly)

B. Skin Lesion Characteristics – Benign vs. Cancer

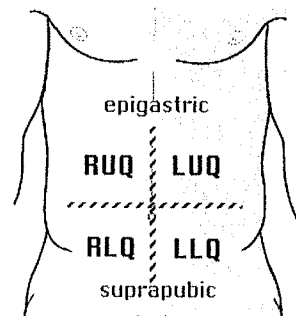
<u>Characteristics</u>	<u>Benign</u>	<u>Malignant</u>
Size	<6mm (eraser of pencil)	>6mm
Color	uniform	varied/black or bluish black (color overrides the size)
Borders	distinct/smooth	irregular/indistinct
Shape	symmetric	asymmetric
Consistency	soft to firm	firm to hard ("frozen pea")
Friability	none	often
Ulceration	seldom (bleeding)	often
Mobility	mobile (on skin- moves freely)	often non-mobile (imbedded deeper)
Rate of Change	slow	slow or rapid

* Benign can change size, shape or color but slowly

Abdominal Palpation

General Considerations

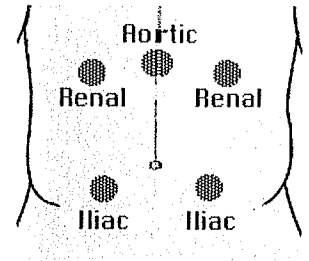
- The patient should be lying supine on the exam table and appropriately draped.
- **Watch the patient's face** for signs of discomfort during the examination.
- Use the appropriate terminology to locate your findings:
 - Right Upper Quadrant (RUQ)
 - Right Lower Quadrant (RLQ)
 - Left Upper Quadrant (LUQ)
 - Left Lower Quadrant (LLQ)
 - Midline (central regions):
 - Epigastric
 - Periumbilical
 - Suprapubic



Inspection

1. Look for scars, striae, hernias (incisional, umbilical, diastasis recti), vascular changes, lesions, or rashes.
2. Look for movement (i.e., pulsations).
3. Note the abdominal contour. Is it flat, scaphoid, or protuberant?

Auscultation - Auscultation should be done **prior** to percussion and palpation since bowel sounds may change with manipulation. Since bowel sounds are transmitted widely in the abdomen, auscultation of more than one quadrant is not usually necessary. If you hear them, they are present, period.



1. Place the diaphragm of your stethoscope lightly on the abdomen.
2. Listen for bowel sounds. Are they normal, increased, decreased, or absent?
3. Listen for bruits (unusual sound that blood makes when it rushes past an obstruction in an artery when the sound is auscultated with the bell portion of a stethoscope) over the renal arteries, iliac arteries, and aorta.

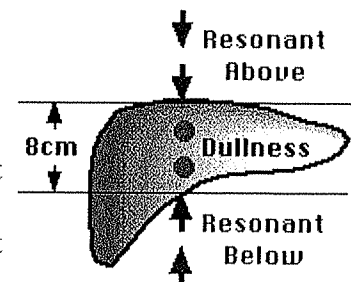
Percussion

1. Hyperextend the middle finger of one hand and place the distal interphalangeal joint **firmly** against the patient's chest.
2. With the end (not the pad) of the opposite middle finger, use a quick flick of the wrist to strike first finger.
3. Categorize what you hear as tympanitic or dull. Tympany is normally present over most of the abdomen in the supine position. Unusual dullness may be a clue to an underlying abdominal mass.
4. Practice your technique until you can consistently produce a "normal" percussion note on your (presumably normal) partner before you work with patients.
5. Percuss in all four quadrants using proper technique.



Liver Span

1. Percuss **downward** from the chest in the **right midclavicular line** until you detect the top edge of liver dullness.
2. Percuss **upward** from the abdomen in the same line until you detect the bottom edge of liver dullness.
3. Measure the liver span between these two points. This measurement should be 6-12 cm in a normal adult.



Splenic Dullness

1. Percuss the lowest costal interspace in the **left anterior axillary line**. This area is normally tympanitic.



2. Ask the patient to take a deep breath and percuss this area again. Dullness in this area is a sign of splenic enlargement.

Palpation

General Palpation

1. Begin with **light palpation**. At this point you are mostly looking for areas of tenderness. The most sensitive indicator of tenderness is the patient's facial expression (so watch the patient's face, **not** your hands). Voluntary or involuntary guarding may also be present.
2. Proceed to **deep palpation** after surveying the abdomen lightly. Try to identify abdominal masses or areas of deep tenderness.
3. Examine tender areas last.

Palpation of the Liver

Standard Method

1. Place your fingers just below the right costal margin and press firmly.
2. Ask the patient to take a deep breath.
3. You may feel the edge of the liver press against your fingers. Or it may slide under your hand as the patient exhales. A normal liver is **not** tender.

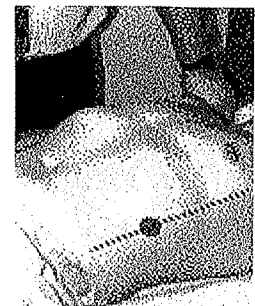


Palpation of the Aorta

1. Press down deeply in the midline above the umbilicus.
2. The aortic pulsation is easily felt on most individuals.
3. A well defined, pulsatile mass, greater than 3 cm across, suggests an aortic aneurysm.

Palpation of the Spleen

1. Use your left hand to lift the lower rib cage and flank.
2. Press down just below the left costal margin with your right hand.
3. Ask the patient to take a deep breath.
4. The spleen is **not** normally palpable on most individuals.



Special Tests

Rebound Tenderness

This is a test for peritoneal irritation.

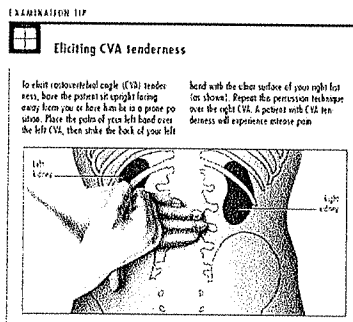
1. Warn the patient what you are about to do.
2. Press deeply on the abdomen with your hand.
3. After a moment, quickly release pressure.

4. If it hurts more when you release, the patient has rebound tenderness.

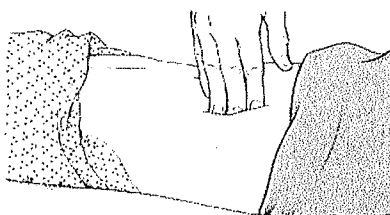
Costovertebral Tenderness

CVA tenderness is often associated with renal disease.

1. Warn the patient what you are about to do.
2. Have the patient sit up on the exam table.
3. Use the heel of your closed fist to strike the patient firmly over the costovertebral angles.
4. Compare the left and right sides.



Eliciting rebound tenderness



To elicit rebound tenderness, help the patient into a supine position and push your fingers deeply and steadily into his abdomen (as shown). Then quickly release the pressure. Pain that results from the rebound of palpated tissue—rebound tenderness—indicates peritoneal inflammation or peritonitis.

Upper quarter screen

Lymph Nodes

1. Systematically palpate with the pads of your index and middle fingers for the various lymph node groups.
 1. Preauricular - In front of the ear
 2. Postauricular - Behind the ear
 3. Occipital - At the base of the skull
 4. Tonsillar - At the angle of the jaw
 5. Submandibular - Under the jaw on the side
 6. Submental - Under the jaw in the midline
 7. Posterior Cervical - posterior to the sternocleidomastoid muscle
 8. Anterior (Deep) Cervical - Deep and anterior to the sternocleidomastoid muscle
 9. Supraclavicular - In the angle of the sternocleidomastoid and the clavicle
 10. Axillary – medial, lateral, anterior, posterior
2. Note the size and location of any palpable nodes and whether they were soft or hard, non-tender or tender, and mobile or fixed.

Thyroid Gland

1. Inspect the neck looking for the thyroid gland. Note whether it is visible and symmetrical. A visibly enlarged thyroid gland is called a **goiter**.
2. Move to a position behind the patient.
3. Identify the **cricoid cartilage** with the fingers of both hands.



4. Move downward two or three tracheal rings while palpating for the isthmus.
5. Move laterally from the midline while palpating for the lobes of the thyroid.
6. Note the size, symmetry, and position of the lobes, as well as the presence of any nodules or pain with palpation. The normal gland is often not palpable.

Carotid and Temporal Arteries

1. Observe for pulsations.
2. Palpate the carotid and temporal arteries on one side.
3. Assess the following:
 - o The amplitude of the pulse.
 - o The contour of the pulse wave.
 - o Variations in amplitude from beat to beat or with respiration.
 - o Assess the temporal artery for pain with palpation.
4. Repeat on the opposite side.

Auscultation for Bruits

If the patient is late middle aged or older, auscultation for bruits is usually performed. A bruit is often, but not always, a sign of arterial narrowing and risk of a stroke.

1. Place the **bell** of the stethoscope over each carotid artery in turn. You may use the diaphragm if the patient's neck is highly contoured.
2. Ask the patient to stop breathing momentarily.
3. Listen for a blowing or rushing sound--a bruit.

Cranial Nerves

Observation

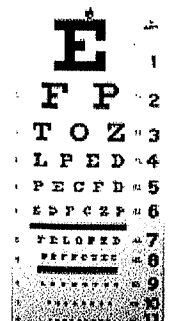
- Ptosis (III)
- Facial Droop or Asymmetry (VII)
- Hoarse Voice (X)
- Articulation of Words (V, VII, X, XII)
- Abnormal Eye Position (III, IV, VI)
- Abnormal or Asymmetrical Pupils (II, III)
- Verbal articulation (XII)
- Ask patient about changes with sense of smell (I), vision (II), facial sensation (V), taste (VII, IX), hearing/balance (VIII), swallowing (IX, X)

I - Olfactory

Not Normally Tested

II - Optic

- Test Visual Acuity
 1. Allow the patient to use their glasses or contact lens if available. You are interested in the patient's best **corrected** vision.

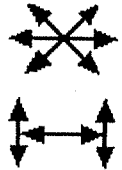


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2. Position the patient 20 feet in front of the Snellen eye chart (or hold a Rosenbaum pocket card at a 14 inch "reading" distance).
 3. Have the patient cover one eye at a time with a card.
 4. Ask the patient to read progressively smaller letters until they can go no further.
 5. Record the smallest line the patient read successfully (20/20, 20/30, etc.) [2]
 6. Repeat with the other eye.
- Screen Visual Fields by Confrontation
 0. Stand two feet in front of the patient and have them look into your eyes.
 1. Hold your hands about one foot away from the patient's ears, and wiggle a finger on one hand.
 2. Ask the patient to indicate which side they see the finger move.
 3. Repeat two or three times to test both temporal fields.
 - Test Pupillary Reactions to Light**
 0. Dim the room lights as necessary.
 1. Ask the patient to look into the distance.
 2. Shine a bright light obliquely into each pupil in turn.
 3. Look for both the direct (same eye) and consensual (other eye) reactions.
 4. Record pupil size in mm and any asymmetry or irregularity.

III - Oculomotor

- Observe for Ptosis
- Test Extraocular Movements**
 1. Stand or sit 3 to 6 feet in front of the patient.
 2. Ask the patient to follow your finger with their eyes without moving their head.
 3. Check gaze in the six cardinal directions using a cross or "H" pattern.
 4. Pause during upward and lateral gaze to check for nystagmus. [6]
 5. Check convergence by moving your finger toward the bridge of the patient's nose.
- Test Pupillary Reactions to Light (See Above)



IV - Trochlear

Test Extraocular Movements (Inward and Down Movement, See Above)

V - Trigeminal

- Test Temporal and Masseter Muscle Strength**
 1. Ask patient to both open their mouth and clench their teeth.
 2. Palpate the temporal and masseter muscles as they do this.
- Test the Three Divisions for Pain Sensation**
 1. Explain what you intend to do.
 2. Use a suitable sharp object to test the forehead, cheeks, and jaw on both sides.
 3. Substitute a blunt object occasionally and ask the patient to report "sharp" or "dull."



VI - Abducens

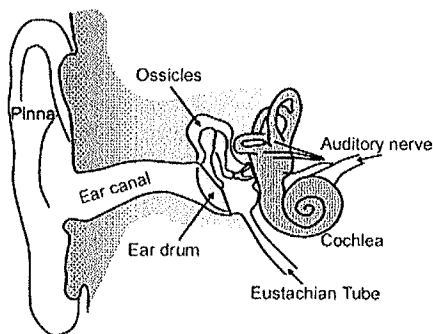
Test Extraocular Movements (Lateral Movement, See Above)

VII - Facial

- Observe for Any Facial Droop or Asymmetry
- Ask Patient to do the following, note any lag, weakness, or asymmetry:**
 1. Raise eyebrows
 2. Smile
 3. Show teeth
 4. Puff out cheeks

VIII – Acoustic (Vestibulocochlear)

- Screen Hearing**
 1. Face the patient and hold out your arms with your fingers near each ear.
 2. Rub your fingers together on one side while moving the fingers noiselessly on the other.
 3. Ask the patient to tell you when and on which side they hear the rubbing.
 4. Increase intensity as needed and note any asymmetry.
 5. If abnormal, proceed with the Weber and Rinne tests.
- Test for Lateralization (Weber)
 1. Use a 256 or 512 Hz tuning fork.
 2. Start the fork vibrating by tapping it on your opposite hand.
 3. Place the base of the tuning fork firmly on top of the patient's head.
 4. Ask the patient where the sound appears to be coming from (normally in the midline).
- Compare Air and Bone Conduction (Rinne)
 1. Use a 256 or 512 Hz tuning fork.
 2. Start the fork vibrating by tapping it on your opposite hand.
 3. Place the base of the tuning fork against the mastoid bone behind the ear.
 4. When the patient no longer hears the sound, hold the end of the fork near the patient's ear (air conduction is normally greater than bone conduction).
- Can also assess vestibular function.



IX - Glossopharyngeal

See Vagus Nerve

X - Vagus

- Listen to the patient's voice, is it hoarse or nasal?
- Ask Patient to Swallow
- Ask Patient to Say "Ah"***

- Watch the movements of the soft palate and the pharynx.
- Test Gag Reflex
 1. Stimulate the back of the throat on each side.
 2. It is normal to gag after each stimulus.

XI - Accessory

- From behind, look for atrophy or assymetry of the trapezius muscles.**
- Ask patient to shrug shoulders against resistance.
- Ask patient to turn their head against resistance. Watch and palpate the sternocleidomastoid muscle on the opposite side.

XII - Hypoglossal

- Listen to the articulation of the patient's words.
- Observe the tongue as it lies in the mouth
- Ask patient to:**
 1. Protrude tongue
 2. Move tongue from side to side

References: <http://medinfo.ufl.edu>, <http://www.med-ed.virginia.edu>

Fear-Avoidance Beliefs Questionnaire (FABQ)
Waddell et. al., Pain. 52(1993)p:157-168

Here are some of the things which other patients have told us about their pain. For each statement please circle any number from 0 to 6 to say how much physical activities such as bending, lifting, walking or driving affect or would affect your pain.

	Completely disagree	Unsure	Completely agree
1. Physical activity makes my pain worse	0	3	6
2. Physical activity might do harm to my condition	0	3	6
3. I should not do physical activities which (might) make my pain worse	0	3	6
4. I cannot do physical activities which (might) make my pain worse.....	0	3	6

FABQA: _____/24

The following statements are about how your normal work affects or would affect your pain.

5. My pain was caused by my work or by an accident at work	0	3	6
6. My work aggravated my pain	0	3	6
7. My work is too heavy for me	0	3	6
8. My work makes or would make my pain worse	0	3	6
9. My work might harm my condition.....	0	3	6
10. I should not do my normal work with my present pain	0	3	6
11. I do not think that I will be back to my normal work within 3 months	0	3	6

FABQW: _____/42

Date _____

Reason for referral: _____

Height _____ Weight _____

Age: _____ Gender: _____

	Yes	No
1. Is the patient a male > 45 years old or a female > 55 years old?	<input type="checkbox"/>	<input type="checkbox"/>
2. Is there known cardiovascular (CV), pulmonary, or metabolic disease? <small>CV disease: cardiac, peripheral vascular, or cerebrovascular disease Pulmonary disease: chronic obstructive pulmonary disease, asthma, interstitial lung disease, or cystic fibrosis Metabolic disease: Diabetes mellitus (type I or II), thyroid disorders, renal or liver disease</small>	<input type="checkbox"/>	<input type="checkbox"/>
3. Are there signs and symptoms of CV disease? <small>Yes if any of these: Chest pain, shortness of breath at rest or mild exertion, syncope, ankle edema, or palpitations</small>	<input type="checkbox"/>	<input type="checkbox"/>
4. Familial history of CV disease? <small>Myocardial infarction, coronary revascularization or sudden death from cardiac causes in: Father or first-degree male relative before age of 55 Mother or first-degree female relative before age of 65</small>	<input type="checkbox"/>	<input type="checkbox"/>
5. Cigarette smoking? <small>Yes: Current smoker or quit within last 6 months</small>	<input type="checkbox"/>	<input type="checkbox"/>
6. High blood pressure? <small>Yes: Blood pressure over 140/90 mmHg or using antihypertensive medication</small> Blood Pressure: _____ Pulse: _____	<input type="checkbox"/>	<input type="checkbox"/>
7. Is the patient obese? <small>Yes: Body mass index > 30; Waist measurement ≥ 40 in for men; Waist measurement ≥ 35 in for women</small>	<input type="checkbox"/>	<input type="checkbox"/>
8. Does the patient perform at least 30 minutes of moderate activity at least 3 days per week?	<input type="checkbox"/>	<input type="checkbox"/>
9. Does the patient have dyslipidemia? Never Assessed <small>Yes: On cholesterol lowering medication or LDL > 130 mg/dl or HDL < 40 mg/dl or total cholesterol > 200 mg/dl No: If HDL > 60 mg/dl, then no risk factor indicated for dyslipidemia. Assessment Indicated: male > 35, female > 45, family history of high cholesterol, 2 risk factors for CAD</small>	<input type="checkbox"/>	<input type="checkbox"/>
10. Does the patient have elevated glucose? Never Assessed <small>Yes: Patient is a diabetic or has a fasting blood glucose > 100 mg/dl on 2 separate occasions Assessment Indicated: age > 45; patient is obese as described above; diabetic risk factors present</small>	<input type="checkbox"/>	<input type="checkbox"/>
Total Gray Boxes Checked	<input type="checkbox"/>	<input type="checkbox"/>

Patient disposition:

_____ **No physician referral necessary - patient is in a low risk category**
(male < 45 years old, female < 55 years old, and only 1 risk factor and no symptoms)

_____ **No physician referral necessary - patient has already been assessed for CV disease**

_____ **No physician referral necessary - patient is already being managed for CV disease**

_____ **Physician referral generated - patient is in a moderate/high risk category**
moderate risk: male ≥ 45 years old, female ≥ 55 years old, or 2 or more risk factors
high risk: known cardiovascular, pulmonary, or metabolic disease, or signs and symptoms of cardiovascular disease, including chest pain, shortness of breath at rest or mild exertion, syncope, ankle edema, and palpitations

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- 28. Holmes JF, Panacek EA, Miller PQ, Lapidis AD, Mower WR. Prospective evaluation of criteria for obtaining thoracolumbar radiographs in trauma patients. *J Emerg Med* 2003;24:1-7.
- 29. Gibson M, Zoltic N. Radiography for back pain presenting to accident and emergency departments. *Arch Emerg Med* 1992;9:28-31.
- 30. Durham RM, Luchtefeld WB, Wibbenmeyer L, Maxwell P, Shapiro MJ, Mazuski JE. Evaluation of the thoracic and lumbar spine after blunt trauma. *Am J Surg* 1995;170:681-4.
- 31. Samuels LE, Kerstein MD. 'Routine' radiologic evaluation of the thoracolumbar spine in blunt trauma patients: a reappraisal. *J Trauma* 1993;34:85-9.

APPENDIX A: DECISION AID AND LIST OF "RED FLAGS" COMPLETED BY PRIMARY CARE PRACTITIONERS

1. Please complete the red flag checklist (circle Yes or No)

RED FLAG CHECK LIST	Y	N	CANCER	INFECTION	SPINAL FRACTURE	INFLAMMATORY DISORDER	CATALEPTIC SYNDROME	OTHER
Age at onset less than 20 or over 55 years	Y	N						
Gradual onset before age 40	Y	N						
Age over 70 years	Y	N						
Unexplained weight loss (of more than 10 pounds [4.5 kg] in 6 months)	Y	N						
Previous history of cancer	Y	N						
Tried bed rest, but no relief	Y	N						
Insidious onset	Y	N						
Systemically unwell	Y	N						
Constant, progressive, non-mechanical pain	Y	N						
Recent bacterial infection, e.g., urinary tract or skin infection	Y	N						
Intravenous drug abuse	Y	N						
Immune suppression from steroids, transplant or HIV	Y	N						
Significant trauma (major in young, minor in elderly)	Y	N						
Prolonged use of corticosteroids	Y	N						
Morning back stiffness, 0.5 hours or more	Y	N						
Peripheral joint involvement	Y	N						
Persisting limitation of spinal movements in all directions	Y	N						
Iritis, skin rashes (psoriasis), colitis, urethral discharge	Y	N						
Family history of arthritis or osteoporosis	Y	N						
Pain improves with exercise	Y	N						
Acute onset of urinary retention or overflow incontinence	Y	N						
Loss of anal sphincter tone or fecal incontinence	Y	N						
Saddle anesthesia about the anus, perineum or genitals	Y	N						
Widespread (greater than 1 nerve root) or progressive motor weakness in the legs or gait disturbances	Y	N						
Sensory level (Altered sensation from trunk down)	Y	N						

FYI: Highlighted disease corresponds to red flag ticked

2. Please choose one diagnosis based on today's full clinical assessment.

George is a 49-year-old man. He complains of 8/10 pain located in the lower back as well as the right posterior thigh (5/10) and numbness and tingling in the posterior aspect of the right lower extremity. According to George, his lower back pain began over a year ago. He is not sure how he hurt it. All he remembers is that his lower back was sore after he and his brother poured a cement patio in his backyard. Since then his lower back pain has gradually increased. George is also complaining of intermittent pain in his upper back and neck along with sleep disturbances 5 to 6 times per night. In addition to his neck pain, he also reports headaches. He states that he feels tired all of the time. He also lacks the motivation to do a lot of work around the house which has led to marital issues. He reports low job satisfaction due to high occupational demands (owns a masonry business); has recently passed on a couple of jobs because he felt he wouldn't be able to physically handle the work. He used to restore classic cars with his son and brother but has stopped in the last 3 months due to pain. Social history: Drinks a 12-pack every weekend; smokes the occasional cigarette with friends at the bar. Has tried to quit multiple times. PMH: Currently has high cholesterol, is diabetic and has hypertension (currently taking medication for each). MRI of brain, C-spine and T-spine normal. Extruded disc noted at L5-S1. Has "failed" PT twice; recently saw neurosurgery who recommended another month of PT, as well as acupuncture and trigger point injections. If those do not help, L5-S1 fusion recommended.

Objective examination:

STarTBack Screening tool: 8/9 (4 on the subscale); Oswestry Disability Index: 48; FABQ-W = 37

Height: 5' 8"; Weight: 210 lbs; BP: 152/96 mmHg

Observations: Reduced lumbar lordosis in standing. Demonstrates guarded movements getting into and out of chairs, grabs on to the table when bending over.

Movement loss assessment: Full range of motion in all directions (with support), except extension which is moderately limited. Reports stiffness at end-range. Palpable stiffness w/central PAs at L3-5.

Repeated movement testing: no directional preference noted at this time.

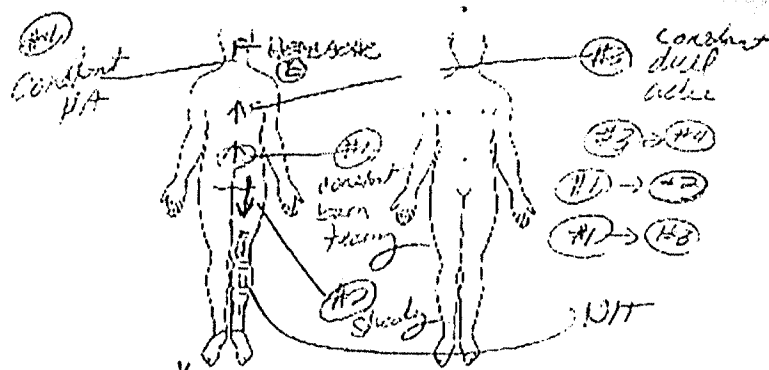
Normal neuro exam. SLR: In supine: Left LE = 65 degrees; Right LE = 40 degrees - produces right LE radicular sx

Body Chart:

Please mark the areas where you feel pain or symptoms on the body chart with the following symbols to describe your pain:

- || Numbness
- = Tingling
- ↓ Shooting/sharp pain
- Dull/Ache pain

My symptoms currently: Come and go Are Constant Are constant, but change with activity



Questions to consider:

What is George's prognosis?

George is extremely skeptical about more PT. How do you address his skepticism? Does he have reason to be skeptical?

Will he ever return to his pre-injury level of activity? If so, when?

What is your initial treatment plan for George?

Patient Centered Outcome Questionnaire

MANY PEOPLE EXPERIENCE PAIN, FATIGUE (I.E., FEELING TIRED), EMOTIONAL DISTRESS (E.G., WORRIES, FEELING SAD), AND INTERFERENCE WITH DAILY ACTIVITIES (E.G., NOT BEING ABLE TO WORK OR DO HOUSEHOLD CHORES) AS A RESULT OF THEIR MEDICAL CONDITION. WE WOULD LIKE TO UNDERSTAND HOW YOU HAVE BEEN IMPACTED IN EACH OF THESE AREAS. WE WOULD ALSO LIKE TO LEARN MORE ABOUT WHAT YOU WANT YOUR TREATMENT TO DO FOR YOU.

FIRST, WE WOULD LIKE TO KNOW YOUR USUAL LEVELS OF PAIN, FATIGUE, EMOTIONAL DISTRESS, AND INTERFERENCE.

On a scale of 0 (none) to 100 (worst imaginable), please indicate your usual level (during the past week) of . . .

- pain _____
 - fatigue (or tiredness) _____
 - emotional distress _____
 - interference with daily activities _____
-

NOW, WE WOULD LIKE TO LEARN ABOUT YOUR DESIRED LEVELS OF PAIN, FATIGUE, EMOTIONAL DISTRESS, AND INTERFERENCE. IN OTHER WORDS, WE WOULD LIKE TO UNDERSTAND WHAT YOUR IDEAL TREATMENT OUTCOME WOULD BE.

On a scale of 0 (none) to 100 (worst imaginable), please indicate your desired level of . . .

- pain _____
 - fatigue (or tiredness) _____
 - emotional distress _____
 - interference with daily activities _____
-

PATIENTS UNDERSTANDABLY WANT THEIR TREATMENT TO RESULT IN DESIRED OR IDEAL OUTCOMES LIKE YOU INDICATED ABOVE. UNFORTUNATELY, AVAILABLE TREATMENTS DO NOT ALWAYS PRODUCE DESIRED OUTCOMES. THEREFORE, IT IS

IMPORTANT FOR US TO UNDERSTAND WHAT TREATMENT OUTCOMES YOU WOULD CONSIDER SUCCESSFUL.

On a scale of 0 (none) to 100 (worst imaginable), please indicate the level each of these areas would have to be at for you to consider treatment successful.

- pain _____
 - fatigue (or tiredness) _____
 - emotional distress _____
 - interference with daily activities _____
-

NOW, WE WOULD LIKE TO KNOW WHAT YOU EXPECT YOUR TREATMENT TO DO FOR YOU.

On a scale of 0 (none) to 100 (worst imaginable), please indicate the levels you expect following treatment.

- pain _____
 - fatigue (or tiredness) _____
 - emotional distress _____
 - interference with daily activities _____
-

FINALLY, WE WOULD LIKE TO UNDERSTAND HOW IMPORTANT IT IS FOR YOU TO SEE IMPROVEMENT IN YOUR PAIN, FATIGUE, EMOTIONAL DISTRESS, AND INTERFERENCE FOLLOWING TREATMENT.

On a scale of 0 (not at all important) to 100 (most important), please indicate how important it is for you to see improvement in your . . .

- pain _____
- fatigue (or tiredness) _____
- emotional distress _____
- interference with daily activities _____

Zeppieri, G., Lentz, T. A., Atchison, J. W., Indelicato, P. A., Moser, M. W., Vincent, K. R., & George, S. Z. (2012). Preliminary Results of Patient-Defined Success Criteria for Individuals With Musculoskeletal Pain in Outpatient Physical Therapy Settings. *Archives of Physical Medicine and Rehabilitation*, 93(3), 434–440. doi:10.1016/j.apmr.2011.10.007

Case Studies to Determine Need for Exercise Preparticipation Medical Clearance: for each case please note if medical clearance is necessary prior to activity and describe why or why not.

CASE STUDY I

A 50-yr-old nonsmoking male was recently invited by colleagues to participate in a 10-km trail run. He reports currently walking 40 min on Monday, Wednesday, and Friday — something he has done “for years.” His goal is to run the entire race without stopping, and he is seeking training services. He reports having what he describes as a “mild heart attack” at 45 yr old, completed cardiac rehabilitation, and has had no problems since. He takes a statin, an angiotensin-converting enzyme (ACE) inhibitor, and aspirin daily. During the last visit with his cardiologist, which took place 2 yr ago, the cardiologist noted no changes in his medical condition.

CASE STUDY II

A 22-yr-old recent college graduate is joining a gym. Since becoming an accountant 6 mo ago, she no longer walks across campus or plays intramural soccer and has concerns about her now sedentary lifestyle. Although her body mass index (BMI) is slightly above normal, she reports no significant medical history and no symptoms of any diseases, even when walking up three flights of stairs to her apartment. She would like to begin playing golf.

CASE STUDY III

A 45-yr-old former collegiate swimmer turned lifelong triathlete requests assistance with run training. His only significant medical history is a series of overuse injuries to his shoulders and Achilles tendon. In recent weeks, he notes his workouts are unusually difficult and reports feeling constriction in his chest with exertion — something he attributes to deficiencies in core strength. Upon further questioning, he explains that the chest constriction is improved with rest and that he often feels dizzy during recovery.

CASE STUDY IV

A 60-yr-old woman is beginning a professionally led walking program. Two years ago, she had a drug-eluting stent placed in her left anterior descending coronary artery after a routine exercise stress test revealed significant ST-segment depression. She completed a brief cardiac rehabilitation program in the 2 mo following the procedure but has been inactive since. She reports no signs or symptoms and takes a cholesterol-lowering statin and antiplatelet medications as directed by her cardiologist.

CASE STUDY V

A 35-yr-old business consultant is in town for 2 wk and seeking a temporary membership at a fitness club. She and her friends have been training for a long-distance charity bike ride for the past 16 wk; she is unable to travel with her bike and she does not want to lose her fitness. She reports no current symptoms of CV or metabolic disease and has no medical history except hyperlipidemia, for which she takes a HMG-CoA reductase inhibitor (statin) daily.