

EXAMINATION: HISTORY AND SUBJECTIVE COMPLAINTS SYSTEMS REVIEW

Examination	
History	<ul style="list-style-type: none">Gathering of data from both past and present related to why patient is seeking physical therapy services
Systems Review	<p>Brief investigation of:</p> <ol style="list-style-type: none">Anatomical & physiological status of body systemsCommunication ability, affect, cognition, learning styleReview of "red flags" and other screening data
Tests & Measures	<p>Performed to:</p> <ul style="list-style-type: none">Confirm or reject working hypothesisAssist clinical decision makingMonitor response to interventions

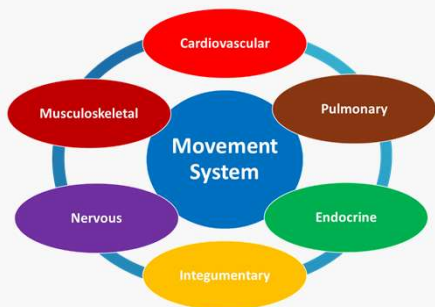
History and Subjective Complaints

<ul style="list-style-type: none">OnsetLocationDurationPatternChangeover timeQualityIntensityAssociated symptomsExacerbating and alleviating factors	<ul style="list-style-type: none">Current management strategiesPrevious management strategiesMedicationsPast medical historyPsychosocial historyImpact on functionImpact on QOLExpectations and goals
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History and Subjective Complaints

- When and how cancer was diagnosed?
- Type, grade, stage of cancer?
- Health status at time of diagnosis?
- Cancer treatment received or planned
 - How patient tolerated or is tolerating treatment?
- Diagnostic tests performed?
- If primary treatment is completed,
 - Anticipated screening intervals?
 - Screening modalities?
 - Prognosis for recurrence?
- If metastatic disease,
 - Organs affected?
 - Treatment plan?
 - Prognosis?

Systems Review



Causes for concern or “Red Flags”

- Compression of neurologic tissue
 - Tumor or unstable fracture
- Cardiac ventricular function
 - Ejection fraction, wall movement, cardiac output
- Bone health
 - Osteopenia/osteoporosis
 - Cortical bone destruction (bone metastasis)
- Anemia, neutropenia, thrombocytopenia
 - Blood values (hemoglobin, hematocrit, white blood count, platelet count)

[Gilchrist, L et al. A framework for assessment in oncology rehabilitation. *Physical Therapy*, 2009;89:286-306]

Bone Metastasis and Fracture Risk

Score	Site of lesion	Size of lesion	Nature of lesion	Pain
1	Upper limb	< 1/3 of cortex	Blastic	Mild
2	Lower limb	1/3 - 2/3 of cortex	Mixed	Moderate
3	Trochanteric region	> 2/3 of cortex	Lytic	Severe

- Prophylactic fixation is highly indicated for a lesion with an overall score of 9 or greater.
- A lesion with an overall score of 7 or less can be managed using radiotherapy and drugs.
- An overall score of 8 presents a clinical dilemma.

[Mirels H. Metastatic disease in long bones: a proposed scoring system for diagnosing impending pathologic fractures. *Clin Orthop Relat Res.* 1989;249:256-264.]

High risk features

- Plain x-ray showing cortical lesions >2.5–3.0 cm or >50% cortical involvement
- Painful lesions
- Unresponsive to radiation

Size of Lesion	Recommendation
>50% cortex involved	No exercises; touch down, non-weight bearing; use crutches, walker; active ROM exercise (no twisting)
25–50% cortex involved	No stretching; partial weight bearing; light aerobic activity; avoid lifting/straining activity
0–25% cortex involved	Full weight bearing

DeVita VT, et al. *Cancer: Principles & Practice of Oncology*, 7th Edition. Philadelphia, Pa. Lippincott Williams & Wilkins, 2005.

Neutropenia, Thrombocytopenia, Anemia

	Normal Range	Abnormal	Clinical Implications
White Blood Cell Count	5.0-10.0 10 ⁹ /L	Leukopenia: < 4.0 10 ⁹ /L Neutropenia: < 1.5 10 ⁹ /L Moderate: 0.5-1.0 10 ⁹ /L Severe: < 0.5 10 ⁹ /L	Symptom-based approach when determining appropriateness of activity
Platelets	140-400 k/uL	Thrombocytopenia: low platelets < 150 k/uL	< 20 k/uL: Symptom-based approach when determining appropriateness of activity; collaborate with interprofessional team
Hemoglobin	Male: 14-17.4 g/dL Female: 12-16 g/dL	Anemia: low hemoglobin	Low critical values: <5.7 g/dKL < 8 g/dL: Symptom-based approach when determining appropriateness of activity; collaborate with interprofessional team
Hematocrit	Male: 42-52% Female: 37-47%	Anemia: low hematocrit	Low critical values: < 15-20% < 25%: Symptom-based approach when determining appropriateness of activity; collaborate with interprofessional team

Academy of Acute Care Physical Therapy Laboratory Values Interpretation Resource retrieved from: <https://www.acutepth.org/page/ResourceGuides>

Oncologic Emergencies
STRUCTURAL

<ul style="list-style-type: none">■ Spinal Cord Compression<ul style="list-style-type: none">- Common Cancers<ul style="list-style-type: none">■ Thoracic: Lung and Breast■ Lumbar: Prostate, melanoma, GI- Signs and Symptoms<ul style="list-style-type: none">■ Onset: Localized back pain, night pain, pain worse lying supine■ Progression: Paralysis, sensory loss■ Late: bowel and bladder dysfunction	<ul style="list-style-type: none">■ Malignant Pericardial Effusion<ul style="list-style-type: none">- Common Cancers or Causes<ul style="list-style-type: none">■ Lung, breast, esophageal cancers and lymphomas, leukemia, and melanoma■ Radiation to chest- Signs and Symptoms<ul style="list-style-type: none">■ Chest pain, dyspnea, orthopnea, palpitations, cyanosis
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Morris GS, Brueilly KE, Paddison NV. Oncologic Emergencies: Implications for Rehabilitation. Topics in Geriatric Rehabilitation. 2011;27(3):176-83.

Oncologic Emergencies
STRUCTURAL

- Superior Vena Cava Syndrome
 - Common Cancers or Causes
 - Lung, lymphoma, breast cancer
 - Central venous catheter
 - Signs and Symptoms
 - Onset: facial swelling, jugular venous distention, feeling of fullness in head lying down or bending, sensation shirt collar is tight
 - Progression: UE edema
 - Late: cardiovascular (tachycardia, cyanosis), respiratory (nonproductive cough, dyspnea), CNS (HA, confusion, anxiety), stridor

Morris GS, Brueilly KE, Paddison NV. Oncologic Emergencies: Implications for Rehabilitation. Topics in Geriatric Rehabilitation. 2011;27(3):176-83.

Oncologic Emergencies
METABOLIC

- Hypercalcemia
 - Common cancers
 - Lung, breast, head and neck, multiple myeloma, GI
 - Signs and symptoms
 - Bone pain, fatigue, increased thirst and frequent urination
 - GI: constipation, abdominal pain
 - Neurological: muscle weakness, lethargy, confusion, loss of consciousness, coma
 - Cardiac: EKG changes, MI

Morris GS, Brueilly KE, Paddison NV. Oncologic Emergencies: Implications for Rehabilitation. Topics in Geriatric Rehabilitation. 2011;27(3):176-83.

Oncologic Emergencies METABOLIC

- Tumor lysis syndrome
 - *Hyperuricemia, Hyperkalemia, Hypocalcemia, Hyperphosphatemia*
 - *Common cancers*
 - Cancers with rapidly proliferating cells (acute lymphoblastic leukemia, high grade lymphomas)
 - Solid tumors that are chemo sensitive (neuroblastoma, breast, small-cell lung)
 - *Signs and symptoms*
 - Typically occurs shortly after chemotherapy
 - *Nausea, vomiting, weakness, fatigue, lethargy, urinary symptoms*
 - *Late: renal failure and cardiac dysfunction*

Morris GS, Brueilly KE, Paddison NV. Oncologic Emergencies: Implications for Rehabilitation. *Topics in Geriatric Rehabilitation*. 2011;27(3):176-83.

Oncologic Emergencies HEMATOLOGIC

- Neutropenic fever
 - *Common cancers and causes*
 - Patients receiving chemotherapy
 - *Signs and symptoms*
 - Onset: neutropenia
 - Progression: single oral temperature >101.3F or oral temperature >100.4F for > 1 hour
 - Late: septic shock

Morris GS, Brueilly KE, Paddison NV. Oncologic Emergencies: Implications for Rehabilitation. *Topics in Geriatric Rehabilitation*. 2011;27(3):176-83.


Oncologic Emergencies HEMATOLOGIC

- Venous thromboembolisms
 - *Common cancers and causes*
 - Individuals with cancer 4-7 times more likely
 - Greatest risk: pancreatic, brain, acute myeloid leukemia
 - *Signs and symptoms*
 - DVT
 - *Swelling, pain, tenderness, warmth, discoloration of skin*
 - PE
 - *Dyspnea, tachycardia, cough, chest pain, lightheaded, cyanosis*

Morris GS, Brueilly KE, Paddison NV. Oncologic Emergencies: Implications for Rehabilitation. *Topics in Geriatric Rehabilitation*. 2011;27(3):176-83.

Carotid Artery Dysfunction

- Stenosis and increased plaque deposition
- Rupture
 - Medical emergency
- Screening ultrasound
 - Usually within 1st year
 - Repeat every 2-3 years



[Galloway T, Amdur R. Management of late complications of head and neck cancer and its treatment. In UpToDate, Post, TW (ed), UpToDate, Waltham, MA, 2019]

Carotid Artery Dysfunction

<p>Non-ischemic local signs/symptoms</p> <ul style="list-style-type: none"> ■ Horner's Syndrome <ul style="list-style-type: none"> - Ptosis (drooping eyelid) - Enophthalmia (sunken eye) - Miosis (constricted pupil) ■ Pulsatile tinnitus ■ Cranial nerve palsies (CN IX to XII) 	<p>Non-ischemic less common signs and symptoms</p> <ul style="list-style-type: none"> • Ipsilateral carotid bruit • Scalp tenderness • Neck swelling • CN VI palsy • Orbital pain • Anhidrosis (facial dryness)
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Ischemic Signs/Symptoms

- TIA
- CVA
- Retinal infarction
- Loss of vision

[Kerry R, Taylor AJ. Cervical arterial dysfunction: knowledge and reasoning for manual physical therapists. J Orthop Sports Phys Ther. 2009;39:378-87]
 [Kerry R, Taylor AJ, Mitchell J, McCarthy C. Cervical arterial dysfunction and manual therapy: a critical literature review to inform professional practice. Man Ther. 2008;13:278-88]

Carotid Artery Dysfunction

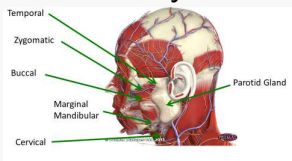
Test and Measure	Comments
Functional positional test (cervical extension)	Affects blood flow in internal carotid arteries No evidence to support the construct validity of functional pre-screening testing in terms of its ability to identify patients who are more likely to have spontaneous dissection events
Blood pressure	Correlates to cervical arterial atherosclerotic pathology
Cranial nerve examination	Identifies specific cranial nerve dysfunction resulting from ischemia or vessel compression
Eye examination	Assists in diagnosis of possible deficit related to carotid artery dysfunction Eye symptoms maybe early warning sign

[Kerry R, Taylor AJ. Cervical arterial dysfunction: knowledge and reasoning for manual physical therapists. J Orthop Sports Phys Ther. 2009;39:378-87]
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Cranial Nerve Assessment

	Nerve	Test
I	Olfactory	Detect differences between odors (peppermint, vanilla, etc) Not usually tested
II	Optic	Cover one eye and read sentences (read badge)
III	Oculomotor	Eye movement: follow examiner's finger while making an "H"
IV	Trochlear	
VI	Abducens	Pupillary light reflex: assess pupil constriction
V	Trigeminal	Sensation: light touch at forehead, cheek, and lower jaw Motor: palpate contraction of masseter and temporalis
VII	Facial	Sensation: tip of tongue-distinguish between salt and sugar; Motor: raise eyebrows, smile, show lower teeth
VIII	Vestibulocochlear	Acoustic: rubbing fingers or whispering Vestibular: nystagmus or vertigo
IX	Glossopharyngeal	Patient says "ah", soft palate is observed for symmetrical elevations
X	Vagus	
XII	Hypoglossal	Tongue protrusion-examiner notes any lateral deviation

Facial Nerve Palsy



Temporal	Lift eyebrow; Pull eyebrow medially and in
Zygomatic	Close eye
Buccal	Wrinkle nose; Pull edges of mouth superiorly and laterally (smile)
Marginal Mandibular	Raise and protrude lower lip; Wrinkle skin of chin
Cervical	Contraction of platysma; Pull corners of mouth down and lower lip down
