

The background is a watercolor-style gradient transitioning from dark blue on the left to light blue on the right. A white silhouette of a hand is positioned on the left side, with fingers pointing towards the right. The text is overlaid on the right side of the image.

The Role of the Acute Care Physical Therapist

A CAPSTONE PROJECT BY CAROLINE BALLARD, SPT

Introduction

- UNC DPT Graduating Class of 2022
- From Wilmington, NC
- Appalachian State University Alumna
- Clinical interests: acute care, neurologic rehabilitation

Objectives

- Develop a basic understanding of the role of an acute care PT.
- Describe red flags that would prevent a therapist from initiating or continuing a therapy session.
- Demonstrate ability to find relevant information in a chart using a thorough and stepwise strategy.
- Identify common laboratory values that are outside of a normal range and describe the physical therapy implications.
- Demonstrate a basic understanding of evaluation components and potential interventions in the acute care setting.
- Demonstrate appropriate clinical reasoning and apply information to a clinical case scenario

Overview

Introduction to Acute Care Physical Therapy

Chart Review

Lab Values (see supplemental booklet)

Equipment

Examination

Treatment

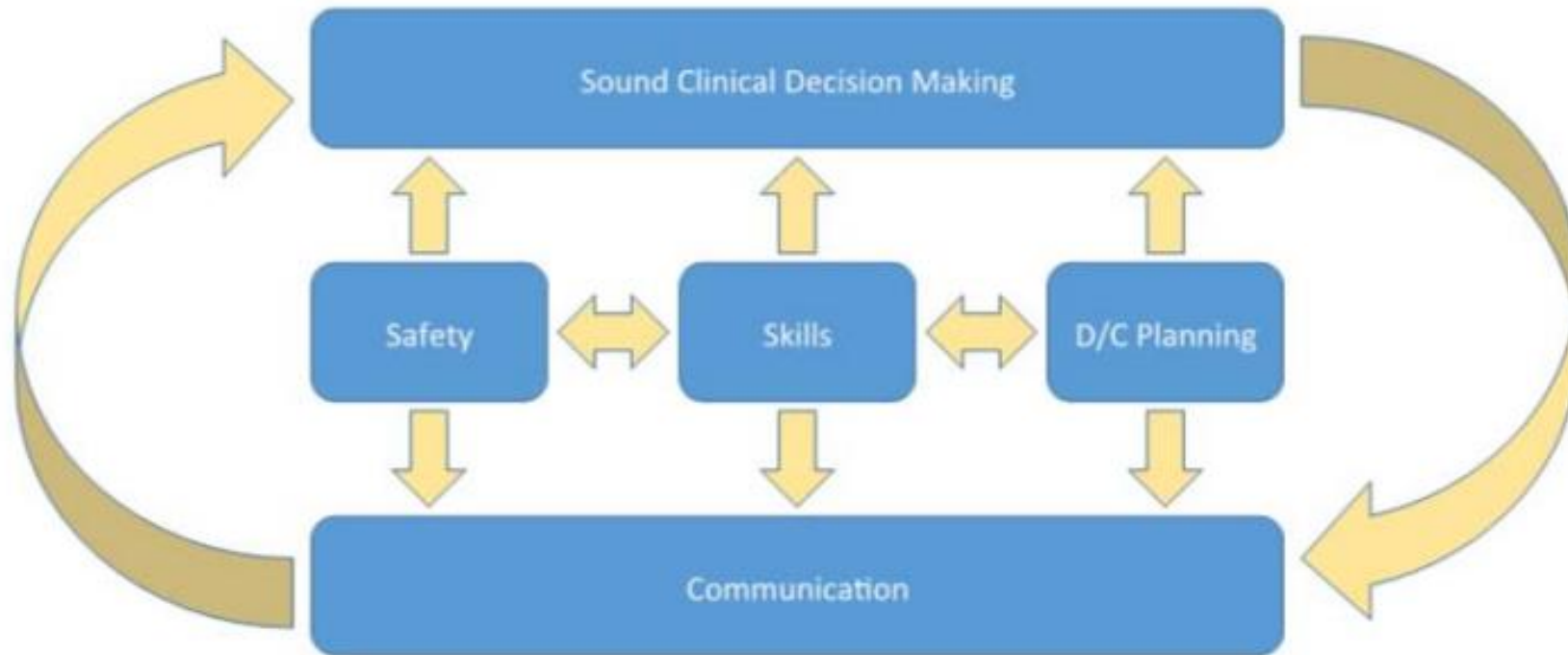
Chart Review Activity

The background features a light purple, abstract brushstroke graphic that starts from the top left and extends towards the right, with a smaller, similar stroke at the bottom right. The text is centered within the purple area.

*What is your
experience with
Acute Care?*

Essential Skills of the Acute Care PT^{1,2}

Figure 1



*A Day in the
Life of the
Acute Care
Physical
Therapist^{1,3}*



The Interdisciplinary Team



The Value of Physical Therapy in Acute Care^{4,5,6,7}

Improved functional status

Improvements in gait speed

Increased activity tolerance

Improved health-related Quality of Life

Reduced readmissions

Reduced length of stay

Reduction in overall hospital costs

Preparing for the Experience

- Open mind
- Study for mock clinical
- Practice patient speak
- Establish relationship with CI
- Arrive early
- Bring reference documents



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Chart Review



*What do you need to know
before seeing a patient for
the first time?*

Primary Goals



UNDERSTAND THE
PATIENT

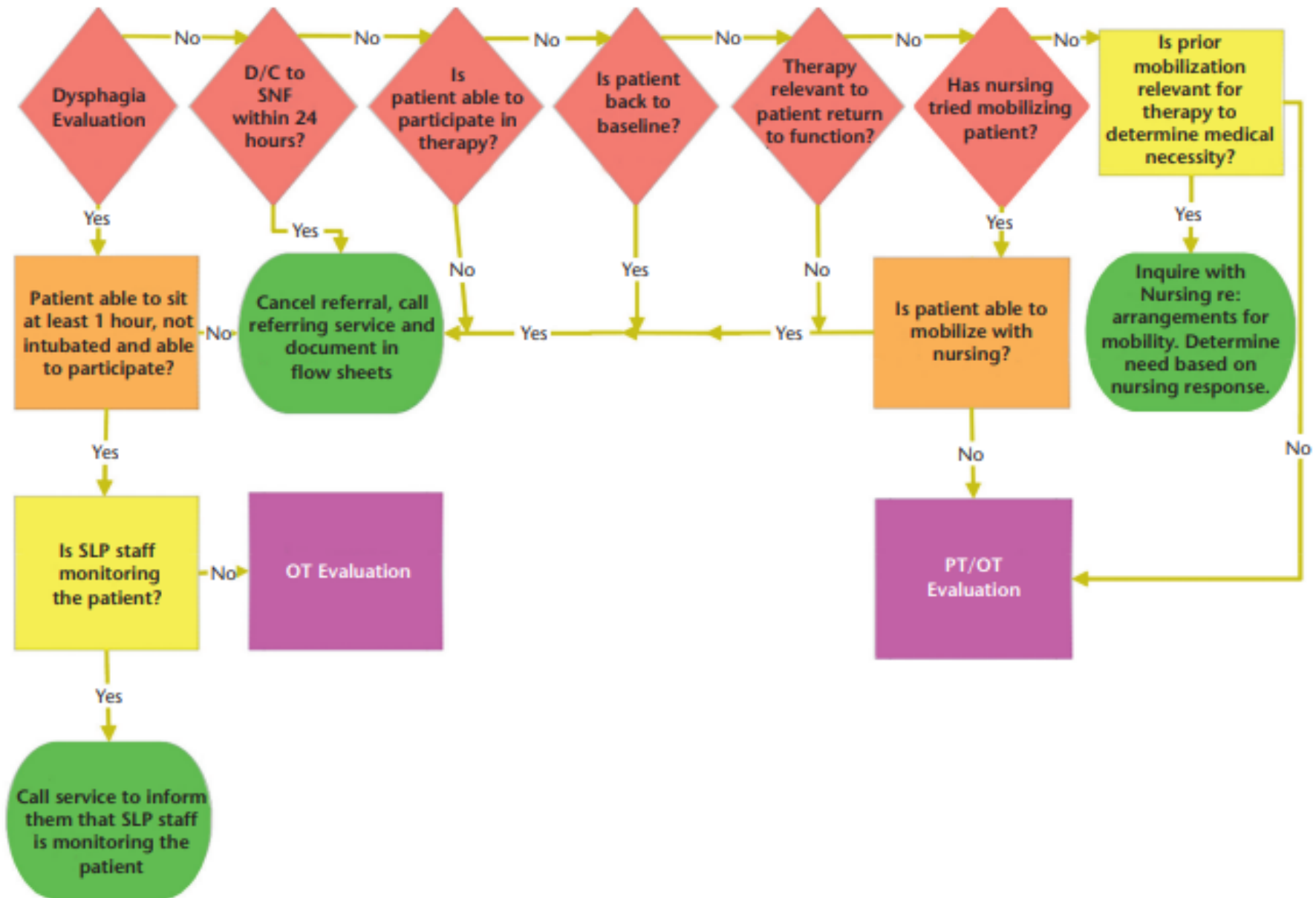


DECIDE IF
APPROPRIATE



MOBILITY MENTAL
PICTURE

Sample Triage Tool³



Strategies for Chart Review¹

- PT referral/order
- Admission/History of Present Illness
- Past medical history and co-morbidities
- Anthropometric and demographic information
- Lab values and vitals
- Pharmacology
- Recent nursing and/or physician documentation
- Operation or Imaging Reports
- Social history



Sample Chart

Epic Hyperspace - Production - DUBLIN PEDIATRICS

Desktop Action Patient Care Referrals Reports Tools Weblinks Help

← Back → Fwd Home Schedule In Basket Chart Encounter Tel Enc Refill Orders Only Staff Msg Sec Pt Msg Print Secure Log Out

Epic Home Zztest, Ad

Zztest, Ad MRN: 18774711 DOB: 4/15/1950 Age: 60 yea Sex: M Allergies: No Known Allergies PCP: PCP, NO Type: (None)* PH: * BX35, HN35 Online: Basic Alerts: **HM**

Snapshot ADVANCE DIRECTIVE/CODE STATUS

Demographics
AD ZZTEST 123 Easy St
60 year old male Xxx, XX 99999
Home: 999-999-9999

Problem List Chronic
Chronic
ESOPHAGEAL REFLUX
Other
ASTHMA NOS W/O STATUS ASTHM
ESSENTIAL HYPERTENSION NOS
ERRONEOUS ENCOUNTER

Health Maintenance Overdue Due On Due Soon
→ CREATININE 04/15/1950
→ INFLUENZA VACCINE 09/01/2010
→ LIPID SCREENING 04/15/1985
→ PNEUMOCOCCAL VACCINE (PNEUMOVAQ) 04/15/1952
→ POTASSIUM 04/15/1950
→ TDAP VACCINE 04/15/1961
→ UNIVERSAL HIV SCREENING DISCUSSION 04/15/1963
→ VARICELLA ZOSTER VACCINE (ZOSTAVAX) 04/15/2010
COLORECTAL CANCER SCREENING DISCUSSION 08/02/2011

Reminders and Results
None

Allergies
No Known Allergies

Medications Long-Term
PREVPAC Pack
lisinopril (PRINMIL, ZESTRIL) 10mg Tab
tramadol (ULTRAM) 50mg Tab
fluticasone (FLONASE) 50mcg Nasal Susp
PREVPAC (PREVPAC) Pack
ranitidine (ZANTAC) 300mg Tab

Immunizations/Injections
None

Significant History/Details
Tobacco: Not on File
Alcohol: Not on File
3 open orders
Language: UNKNOWN

Specialty Comments Report Show All Edit
No comments regarding your specialty

Family Comments Edit
None

JODIM CC'd Charts, CC'd Results, Result Notes, Results, Addendum, Charts CC'd To Me, Expiring Ord, Open Charts, 9:54 AM

Red Flags⁸

- Hypertensive Crisis $>180/>120$
- Hypotension $<80/<60$
- Mean Arterial Pressure <65 mmHg
- SpO₂ $<90\%$
- Change in cognitive status
- Arrhythmias
- Critical laboratory values

*For population specific considerations, reference Adult Vital Sign Interpretation in Acute Care



Absolute vs. Relative Contraindications⁸

Absolute

- Hypertensive Crisis
- Unstable Angina
- MAP < 60 mmHg
- Hemoglobin 5-7 g/dL
- Uncontrolled arrhythmias
- Drop in BP > 20 mmHg
- Acute PE

Relative

- Systemic illness
- Cognitive impairments
- MAP < 65 mmHg
- Hemoglobin < 8 g/dL
- Known coronary artery stenosis
- Electrolyte abnormalities
- Hyperlipidemia



Lab Values⁹

Reference Supplemental Booklet



Considerations before interpretation⁹

- Trends
- Acute vs. chronic abnormal values
- Race and genetic heterogeneity
- Gender
- Age
- Ultimate judgement by clinician



Equipment

In the room...¹

- Hospital bed
- Chair
- Commode
- Air mattress
- Bed/tab alarm
- Call bell
- Suction
- Wheelchair
- Sequential Compression Devices (SCDs)
- Lines, Leads, Tubes
- BP cuff, pulse oximeter
- Ventilator



To bring with you...

Assistive
Device

Gait belt

Socks,
linens

Hemostat,
pins

Lift

Additional
PPE

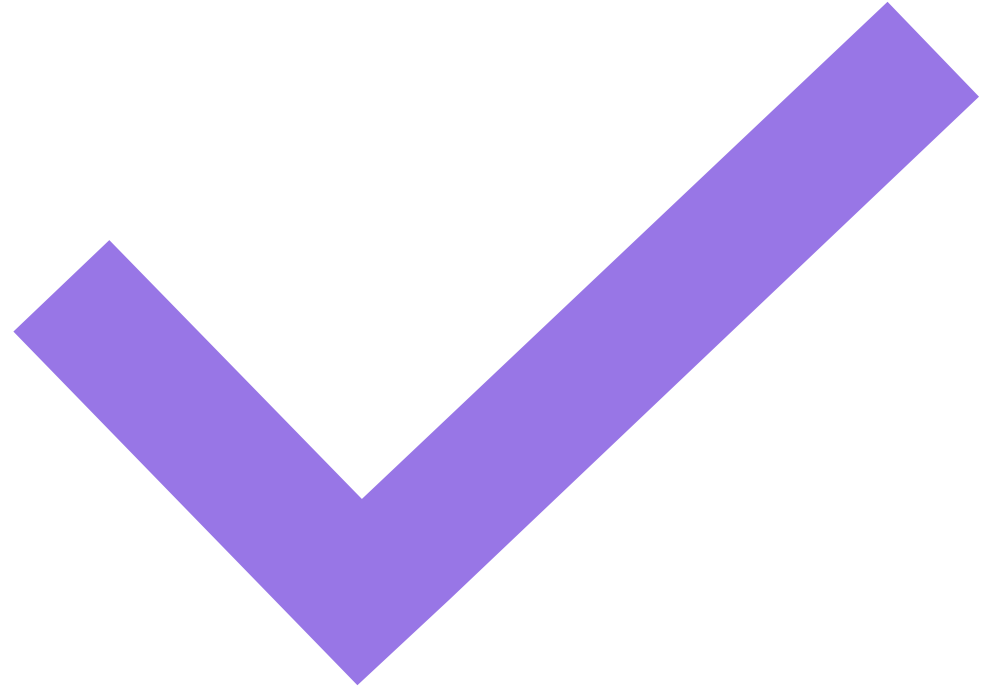
Portable
oxygen



Examination

Safety Considerations¹

- Complete full chart review
- Predict patient status changes
- PPE and equipment
- Lines, leads and tubes
- Environmental barriers
- Seek assistance as needed
- Check in with team
- Plan for adverse events



Standard Precautions and Hand Hygiene¹⁰

- Standard Precautions
 - For use with all patient care scenarios to control infection
 - Apply to blood, bodily fluids, secretions and excretions (except sweat)
 - Hand hygiene (always!!), gloves, protective clothing, mask as necessary if exposure to these is anticipated

Hand Hygiene

- Before and after patient contact
- When hands are soiled or contaminated
- Before and after toileting
- After sneezing, coughing or blowing nose
- After removing gloves
- Before and after eating



Isolation Precautions¹⁰

Contact (enteric)

- Agents spread by direct or indirect contact
- Example agents: MRSA, Gram-negative bacterial infections, Clostridium difficile
- Hand hygiene (Chlorhexidine soap), gloves, gown
- Mask not required

Droplet

- Agents spread through mucous membranes and respiratory secretions
- Example agents: Mumps, Neisseria meningitidis
- Hand hygiene, mask
- Patient must wear surgical mask when out of room

Airborne

- Agents that remain infectious and suspended in the air over long distances
- Example agents: Varicella virus, Rubeola virus, Mycobacterium tuberculosis, SARS-CoV-2
- Hand hygiene, fit-tested N95
- Patient must wear surgical mask when out of room

Patient Interview^{1,11}

Introduction and Patient Consent

Patient Identifiers

Take Complete History of Present Illness

Social and Environmental Factors

History of Falls

Relevant Co-morbidities

Previous PT

First step to establish Therapeutic Alliance

Systems Screen and Objective Measures^{1,12}



Cognition



Appearance



Cardiopulmonary



Musculoskeletal



Neurologic



Integumentary



Pain



Mobility Assessment^{1,12,13}

Functional mobility

- Bed mobility
- Transfers
- Gait
- Stairs

Assistive Device

Level of Assist

ADLs

Mobilization for different populations^{14,15,16}

Venous Thromboembolism (VTE):

- Appropriate patients should mobilize after therapeutic levels of anticoagulant have been achieved.
- Terminate activity if signs/symptoms of PE.

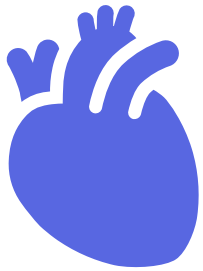
Continuous Renal Replacement Therapy (CRRT):

- Most feasible if catheter location is subclavian or jugular vs. femoral and device has internal battery
- Multiple clinicians required for safe mobilization and symptom monitoring.

Ventricular Assist Devices (VAD):

- Sound understanding of the device and sounds or alarms
- Sternal precautions likely
- Monitor for cardiac symptoms: hypotension, arrhythmias, tachycardia, dizziness and bring patient to sit or supine

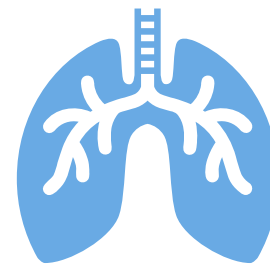
Mobilization for different populations cont. 17,18



Extracorporeal Membrane Oxygenation (ECMO):

Minimum of three clinicians to mobilize (PT, RN, perfusionist).

Terminate activity for hemodynamic instability, hypoxemia, dizziness, weakness, chest pain, dyspnea.



Mechanical Ventilation:

Out of bed exercise deemed safe in intubated patients with fraction of inspired $O_2 \leq 0.6$, $SpO_2 \geq 90\%$, respiratory rate ≤ 30 bpm, PEEP ≤ 10 cmH₂O

Multiple clinicians may be required for safety and management of equipment

Richmond Agitation and Sedation Scale¹⁹

RASS score

Richmond Agitation & Sedation Scale		
Score	Description	
+4	Combative	Violent, immediate danger to staff
+3	Very agitated	Pulls at or removes tubes, aggressive
+2	Agitated	Frequent non-purposeful movements, fights ventilator
+1	Restless	Anxious, apprehensive but movements not aggressive or vigorous
0	Alert & calm	
-1	Drowsy	Not fully alert, sustained awakening to voice (eye opening & contact >10 secs)
-2	Light sedation	Briefly awakens to voice (eye opening & contact < 10 secs)
-3	Moderate sedation	Movement or eye-opening to voice (no eye contact)
-4	Deep sedation	No response to voice, but movement or eye opening to physical stimulation
-5	Un-rousable	No response to voice or physical stimulation

Outcome Measures^{20,21,22,23}

- Underutilized, unstandardized: look out for core set
- Performance vs. self-report
- ICF domain specific
- Activity/Participation level examples
 - AM-PAC
 - FIM
 - Barthel Index

Activity Measure for Post-Acute Care (AM-PAC)²³

- 3 Domains
 - Basic Mobility
 - Daily Activity
 - Applied Cognitive
- “Six Clicks” short form
- Convert raw score to standardized score
- Cut offs for discharge destination

Basic Mobility Form

Boston University AM-PAC[®] ‘6 Clicks’
Basic Mobility (V.2) Inpatient Short Form

Please check the box that reflects your best answer to each question.

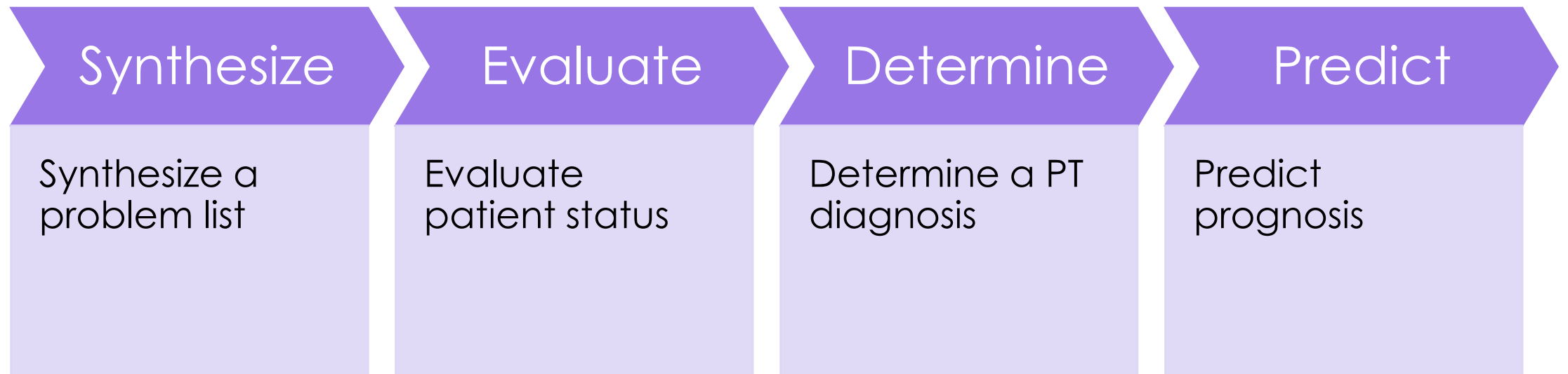
How much help from another person do you currently need... (If the patient hasn't done an activity recently, how much help from another person do you think he/she would need if he/she tried?)	Total	A Lot	A Little	None
1. Turning from your back to your side while in a flat bed without using bedrails?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
2. Moving from lying on your back to sitting on the side of a flat bed without using bedrails?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
3. Moving to and from a bed to a chair (including a wheelchair)?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
4. Standing up from a chair using your arms (e.g., wheelchair, or bedside chair)?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
5. To walk in hospital room?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
6. Climbing 3-5 steps with a railing?*	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

Raw Score: _____ CMS 0-100% Score: _____

Standardized (t-scale) score: _____ CMS Modifier: _____

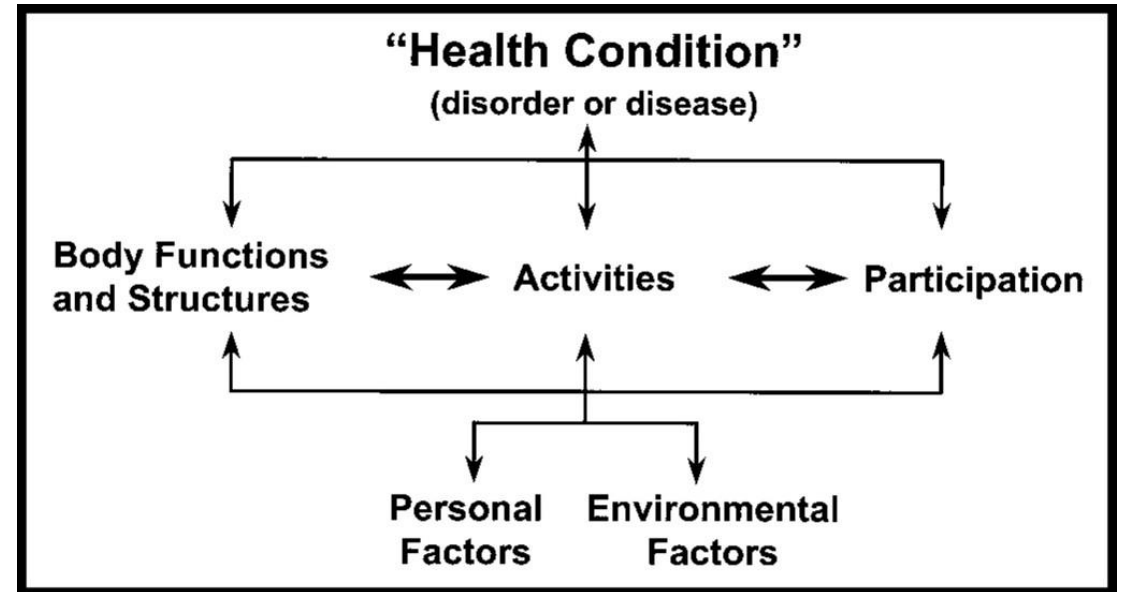
*If stair climbing cannot be assessed, skip item #6. Summarize responses for items 1-5 and use the 5-item conversion table to obtain the Standardized (t-scale) score.

Assessment



ICF Model Applied^{12,24}

- “function is affected by the interplay between an individual's health condition and contextual factors”
- Continuous evaluation of factors is key
- Choose outcome measures specific to the domain you are interested in



Goals²⁵

Primarily working to increase safety, functional status and activity tolerance and based on initial assessment

Specific **M**easurable **A**chievable **R**elevant
Time-based

Common goals (abbreviated)

- Improve distance ambulated with or without AD
- Decrease assist level for transfers and functional mobility (ADLs)
- Understanding of surgical precautions
- Stair negotiation with or without AD
- Improve endurance/activity tolerance based on vital signs
- Reduce falls risk with functional training and strengthening

Plan^{1,26,27}

POC

Skilled PT vs. functional maintenance

Referrals to other disciplines

Understanding of patient life context

Discharge recommendation

- Destination, level of support, equipment, safety

Equipment to recommend...

Discharge
destination

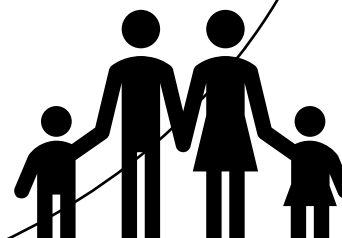
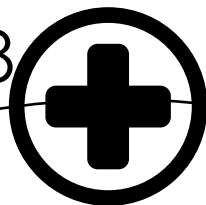
Assistive
Device

Home
modifications

Transportation
modifications

Brace or
orthotic

Communication^{1,28}





Interventions

Interventions^{1,4,29,30}

Therapeutic Exercise

Functional Mobility and
Activity Training

Locomotor Training

Neuromuscular Re-
education

Brace/Orthotic/Prosthetic
Training

Patient and Family
Education

Documentation¹



HAND WRITE INS AND
OUTS



CLEAR AND
DEFENSIBLE



FOLLOW FACILITY
STANDARDS



DOCUMENT
IMMEDIATELY AFTER
SESSION



INCLUDE RELEVANT
ASPECTS OF SESSION



IMMEDIATE
COMMUNICATION
WHEN INDICATED

Acute Care During the COVID-19 Pandemic^{31,32, 33,34}

Downside

- Challenges with Discharge Planning
- Understaffing
- Mobility programs discontinued
- Concern for personal and family health

Upside!

- Push to excite more PT students about Acute Care
- Increased sense of togetherness and teamwork
- Explosion of research
- Updated 2022 Covid-19 CPG

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Chart Review Activity



Activity Instructions

The goal is exposure to a realistic simulation of an EMR

Utilize skills outlined in this presentation to analyze a patient's chart

A document of questions will guide the experience

Answer key available at completion

Patient Overview



General medical patient



Primary diagnosis: failure to thrive



Decline in patient status
sends us to the ICU

Questions?

- caroline_guthrie@med.unc.edu
- Please complete evaluation tool to provide feedback on presentation and Chart Review Activity!!
- https://unc.az1.qualtrics.com/jfe/form/SV_8wUuofrkNFUfSK2

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