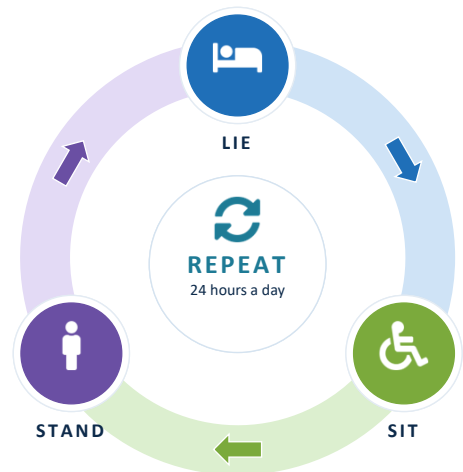


Lie. Sit. Stand. Repeat: 24 Hour Posture Care Management

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Learning objectives

By the end of this course, participants will be able to:

- 1**  **Describe** the role of lying posture care management within a comprehensive 24-hour PCM approach
- 2**  **Identify** postural characteristics and clinical factors that indicate a potential need for LPCM intervention candidates.
- 3**  **Differentiate** assistive technology strategies across the three tiers of LPCM complexity and apply them to individualized clinical scenarios.

FROM EVERYDAY MATERIALS TO SPECIALTY SYSTEMS



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Posture care management spans all three human orientations



LYING



SITTING



STANDING



24-hour PCM is a collaborative therapeutic process that uses skillfully placed **supports** to increase symmetry, protect healthy posture, and maximize everyday function.



LPCM addresses the hours spent **resting or sleeping**.



LYING

SITTING

STANDING

Toole et al., 2026



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What happens during the hours we do not see?



A seating system may be used for **8–12 hours**.



The remaining hours **still shape the body**.



For someone who cannot reposition independently, unsupported lying is not neutral time... **it is intervention time.**



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Up to 4,368 hours a year can accumulate in one posture



Twelve hours per day in habitual asymmetry equals **4,368 hours per year**.



Extended unsupported postures are associated with **body-shape distortion, pain, pressure risk, respiratory compromise, disrupted sleep, and reduced participation.**



The dose is **time × gravity × limited movement.**



IMPACTS CAN INCLUDE:



Body-shape distortion



Pain



Respiratory compromise



Disrupted sleep



Reduced participation

Ágústsson et al., 2019; Casey et al., 2022; Hill & Goldsmith, 2010.



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Sleep as Occupation

A scholarly occupational science overview



CENTRAL FOCUS

Sleep is not merely a biological state. It is a meaningful, organized, culturally shaped occupation that supports participation across everyday life.



OCCUPATIONAL SCIENCE ASKS:

What do people do to sleep? How is it organized? What meanings, contexts, routines, and rights shape it?

Leive & Morrison, 2020



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Many Facets of Sleep

Moving beyond a physiological or biological frame



KEY REFRAMING
Sleep should be studied as a whole occupation: performed, prepared for, patterned, shared, interpreted, and constrained or supported by context. Leive & Morrison, 2020

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Participation, Development, and Routine

How sleep becomes an occupation



ROUTINES VS. RITUALS
Routines provide structure and predictability. Rituals add emotional, symbolic, and relational meaning. Leive & Morrison, 2020

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Orchestration, Synchronization, and Meaning

Sleep organizes the 24-hour pattern of living



Orchestration



Arranging sleep tasks in time and space
Integrating sleep into daily schedules, activities, and environments.



Coordinating sleep with school/work, care, self-care, and roles
Balancing multiple responsibilities across the day.



Balancing desired and actual time use
Finding realistic, sustainable routines that fit real life.



Synchronization



Aligning sleep-wake patterns with circadian rhythm
Supporting the body's natural timing for better sleep and alertness.



Coordinating with family, social norms, and community expectations
Sleep is influenced by relationships, routines, and cultural context.



Creating rhythm across daily participation
Linking sleep with learning, play, work, therapy, and social life.



MEANING AND IDENTITY

Sleep practices express cultural values such as independence, interdependence, privacy, protection, closeness, and belonging.

Leive & Morrison, 2020



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Occupational Rights and OT Implications

Why this framing matters



Occupational right



People need equitable conditions for meaningful, restorative sleep
Sleep is a basic human need and an occupational right.



Context can enable or restrict sleep participation
Environments, routines, resources, and relationships influence sleep opportunities.



Disruption, dysfunction, and deprivation are occupational concerns
Sleep challenges impact health, participation, and quality of life.



Implications for occupational science and OT



Assess sleep as part of the person's whole occupational pattern
Include sleep when evaluating participation, roles, and routines.



Look beyond hours slept
Examine routines, environments, culture, relationships, and meaning.



Consider how sleep supports or limits participation in daily life
Address barriers and facilitators across occupations and contexts.



BOTTOM LINE

Sleep is the thread that helps organize restoration, participation, identity, belonging, and justice across everyday life.

Leive & Morrison, 2020



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LPCM combines comfort, alignment, and function



Lying Posture Care Management enables a person with limited movement to lie in increasingly symmetrical positions through skillful placement of therapeutic supports.



The aim is not a perfect-looking posture. **The aim is a sustainable posture** that supports comfort, pressure distribution, health, sleep, and function.



Toole et al., 2026

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Across the Lifespan diagnoses, ages, and settings



Consider LPCM when a person cannot easily move into or out of a stable midline orientation.



Examples include CP, SCI, DMD, SMA, TBI, CVA, ALS, MS, intellectual disability, and advanced dementia.



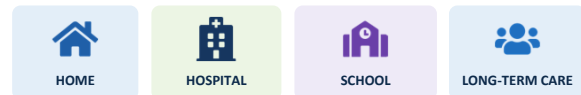
If support is needed for sitting or standing, **assess lying too.**



ACROSS THE LIFESPAN



ACROSS CARE SETTINGS



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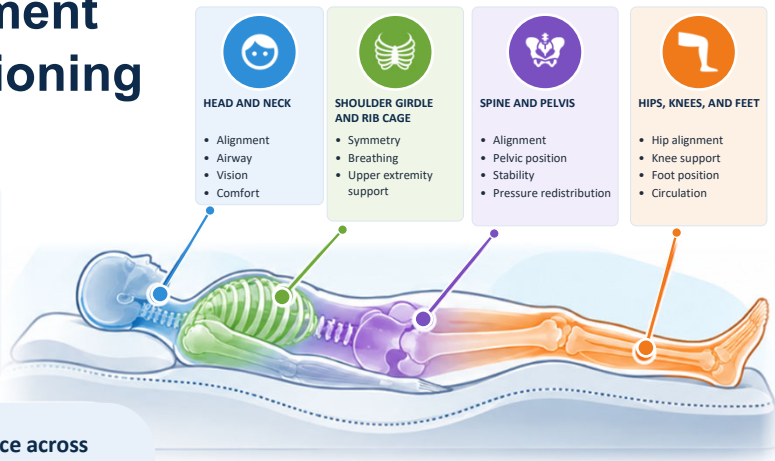
12

Whole-body alignment is more than positioning one limb

- Observe relationships across the:
 - Head and neck
 - Shoulder girdle and rib cage
 - Spine and pelvis
 - Hips, knees, and feet



Support should create **balance across segments** while preserving comfort, skin integrity, breathing, and choice.



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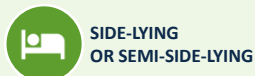
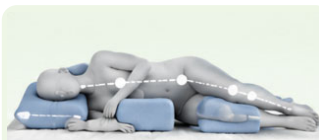
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Supine is encouraged but the safest orientation wins.



SUPINE

- Supine can optimize musculoskeletal alignment and pressure distribution.



SIDE-LYING OR SEMI-SIDE-LYING

- Use side-lying or semi-side-lying when supine is unsafe or poorly tolerated.



HEAD OF BED ELEVATED

- When the head of bed is elevated, manage sliding and shear for example, pair leg elevation with head elevation and secure supports appropriately. Consider time spent in one position.



The safest orientation always wins. Consider the person's medical status, tolerance, and goals.

KEY CONSIDERATIONS



Pressure redistribution



Musculoskeletal alignment



Breathing



Shear and sliding



Safety and tolerance

Toole et al., 2026

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Checkpoints: continuous **not one-time** checks



SCREEN AND REASSESS:



Breathing, swallowing, aspiration, and reflux



Skin, pressure, temperature, and moisture



Pain, tone, range, circulation, and edema



Ability to move, summon help, or remove supports



Sleep, distress, tolerance, and personal choice



Stop and reassess when risk increases.



Toole et al., 2026



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Assess the person, posture, environment, and routine



PERSON

Goals, comfort, movement, sensation, sleep, health



POSTURE

Placeability, flexibility, segment relationships, pressure



ENVIRONMENT

Bed, mattress, space, temperature, caregiving resources



ROUTINE

Sleep schedule, turning, continence, transfers, monitoring



Use a Sleep Diary to Observe...

Not only a clinic mat evaluation.



Sleep quality



Turning patterns



Distress or discomfort



Moisture / skin status



Support stability



Real-world observation

Toole et al., 2026



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Measure outcomes that matter to the person and family

1 Posture and Postural Ability



- Posture and Postural Ability Scale (PPAS)
- Alignment over time
- Tolerance and stability

2 Body Symmetry and Range of Motion



- Body symmetry
- Range-of-motion measures
- Spasticity and tone

3 Skin and Pressure Risk



- Skin condition
- Pressure-risk observations
- Temperature and moisture

4 Pain, Comfort, Sleep, and Caregiver Reports



- Pain and discomfort
- Sleep quality and duration
- Caregiver observations
- Tolerance and acceptance

5 Participation and Daily-Routine Outcomes



- Engagement in activities
- Independence and function
- Daily-routine success
- Quality of life

6 Document, Track, and Adjust



- Baseline measurement
- Change over time
- Tolerance
- Adverse effects

TRACK PROGRESS OVER TIME



Objective and subjective measures



Include input from the person and caregivers



Identify trends and patterns



Adjust supports as needs change



Focus on what improves comfort, health, participation, and quality of life

Casey et al., 2022; Toole et al., 2026



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Start with the least complex effective technology

1

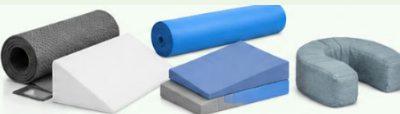
TIER I Materials available at hand



- Secured towels, firm pillows, pads
- Appropriately sized soft objects

2

TIER II Specially applied general-use products



- Non-slip backing
- Spacer mesh
- Customized foam or brackets
- General-use positioning products

3

TIER III Specialty products



- Modular or custom systems
- Designed for whole-body support
- Higher adjustability and precision
- Used when general solutions are not sufficient

Start simple.
Progress as
needed.



Use what you have



Add general-use products



Move to specialized solutions

Toole et al., 2026



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A bed, mattress, or wedge alone is not LPCM

Used in isolation, these do not equal a whole-body LPCM system:



They may be **components**—but the **intervention must address the whole person.**

- ✓ Integrate supports across the body
- ✓ Consider the person, posture, environment, and routine
- ✓ Monitor outcomes
- ✓ Adjust as needs change



LPCM is a **comprehensive, individualized approach**—not a single product.

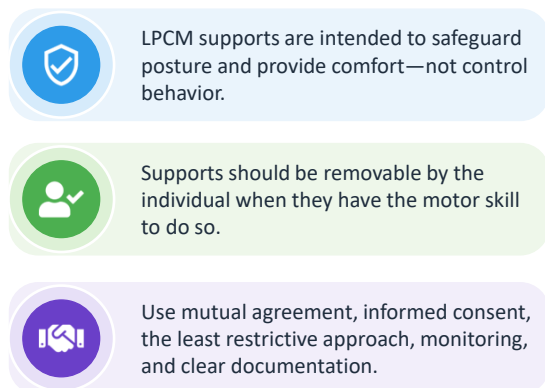
Toole et al., 2026



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Postural support is not restraint when **choice remains central**



LEAST RESTRICTIVE APPROACH

- ✓ Involve the individual
- ✓ Seek and document consent
- ✓ Use the minimum support needed
- ✓ Monitor regularly
- ✓ Adjust based on feedback and changing needs

Toole et al., 2026



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Implementation is a cycle of trial, teach, and refine



Kittelson et al., 2024; Toole et al., 2026

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Case: the seating plan ends at bedtime

Situation

- An adult with cerebral palsy uses customized seating and a standing program but sleeps 10–12 hours in a windswept, rotated posture.
- Morning hip pain is increasing.
- A caregiver uses several loose pillows, but the setup changes nightly.

Key questions

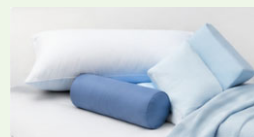
- What would you assess first?
- What is one safe, low-complexity trial?
- What outcome would show that it helped?

1 Assess first Look at the whole picture



- Current sleep posture and movement patterns
- Hip/pelvis alignment and pain triggers
- Skin and pressure areas
- Breathing and comfort
- Sleep quality and duration
- Current setup, resources, and caregiver routine

2 Try a safe, low-complexity change Start simple and keep it reversible



- Use a consistent side-lying position with a pillow between the knees
- Support the trunk and pelvis to reduce rotation
- Use firm, stable pillows or a wedge (not loose pillows)
- Keep the setup simple, comfortable, and easy to replicate nightly

3 Look for meaningful outcomes Does it help? Measure and refine.

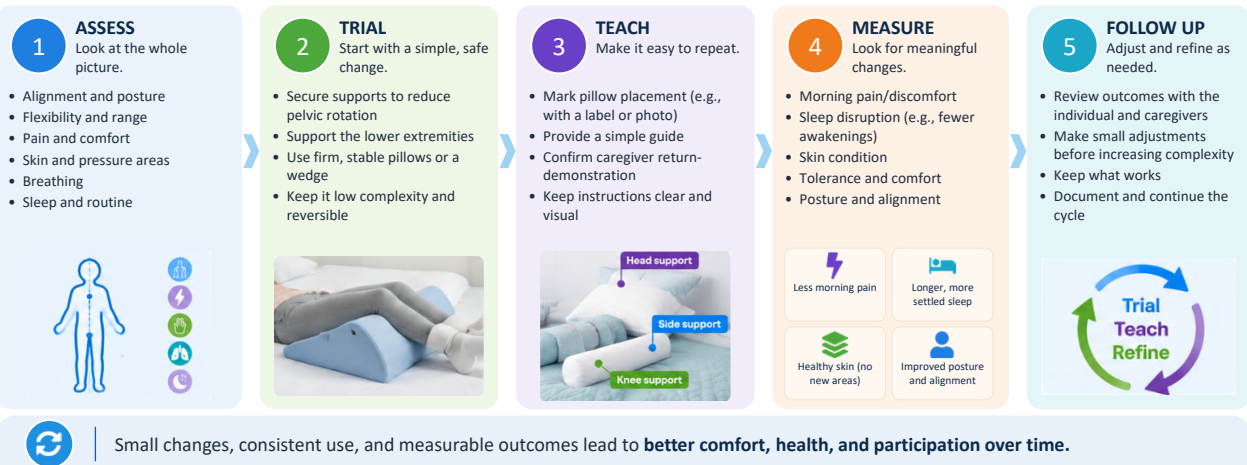
- Less morning hip pain ↓
- Longer, more settled sleep ↑
- Healthy skin (no new pressure areas) ✓
- Easier, more comfortable breathing ↑
- Improved overall comfort and tolerance ↑
- Consistent, repeatable setup for caregivers ↑

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The best first trial is small, repeatable, and measurable



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The evidence supports action—and better measurement



While more research is needed, current evidence supports the use of **individualized, measurable, and well-documented approaches** to improve comfort, health, and quality of life.

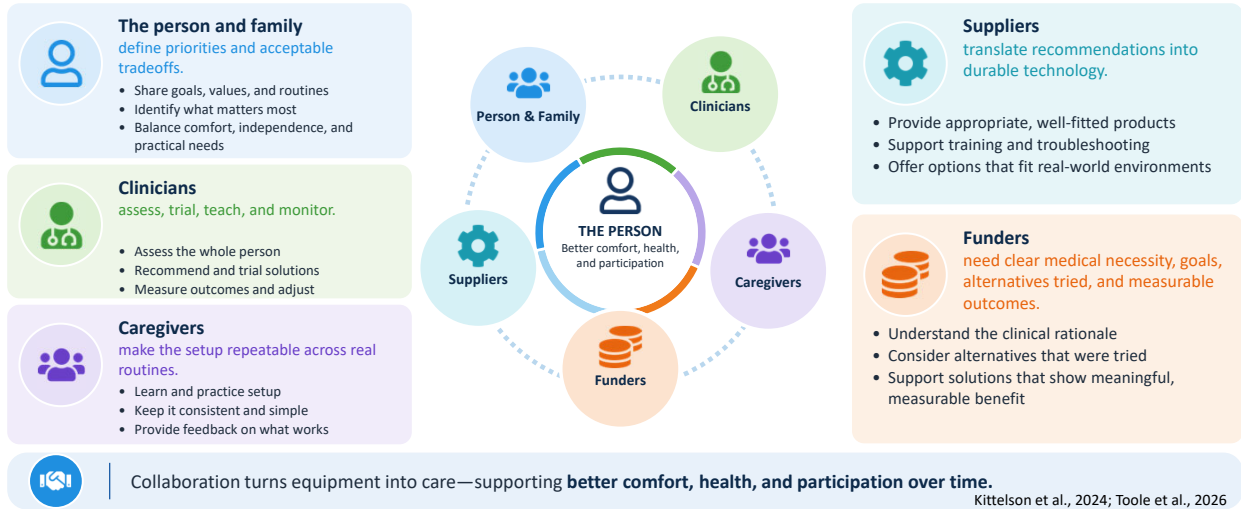
Humphreys et al., 2019; Kittelson et al., 2024; Toole et al., 2026

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Sustainable LPCM is a team outcome



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Protect the posture people live in for all 24 hours



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Thank You!



Questions | Discussion | Continued Collaboration



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