Clinical Practice Guidelines: Implementation in Acute Care Physical Therapist Practice

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ABSTRACT

Purpose: Clinical practice guidelines (CPGs) are evidence-based recommendations intended to optimize patient care. These recommendations are informed by a systematic review of the literature and assessments of the benefits and harms of alternative care options. When coupled with clinical judgment and consideration for patient’s preferences, CPGs reduce practice variation and improve patient-centered health outcomes. Despite the growing availability of CPGs, there is limited transfer of CPG recommendations into clinical practice. The objective of this article was to assist the acute care physical therapist with developing an understanding of the purpose and structure of CPGs and importance of incorporating CPG recommendations into clinical practice.

Methods: To achieve this objective, this article addresses the following 5 questions: (1) What are CPGs? (2) How are CPGs developed? (3) How are CPGs accessed? (4) How are CPG recommendations used by clinicians? and (5) What are the barriers to, and strategies for, implementing CPGs into mainstream acute care physical therapist practice?

Conclusion: Because the use of CPGs optimizes patient outcomes, we recommend physical therapists regard CPGs as key evidence-based resources and implement the relevant recommendations in the management of their patients and for coordination and collaboration with other members of the healthcare team.

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The practice of acute care physical therapy requires competence in managing patients with multiple medical and surgical conditions, collaboration with colleagues from numerous professions, delivery of physical therapy services in complex health care environments, and the use of interventions that are increasingly sophisticated. This situation is not unique to acute care physical therapy; it is being experienced throughout health care systems globally.2,3

To meet the need for easily accessible, evidence-based recommendations for the delivery of optimal health care, clinical practice guidelines (CPGs) have been developed. Clinical practice guidelines assist clinicians in translating best evidence into best practice. Well-developed CPGs facilitate provision of quality health care by reducing variations in practice, improving diagnostic accuracy, promoting effective interventions, and discouraging ineffective, or potentially harmful, practices.5,6 Clinical practice guidelines provide evidence-based recommendations in the form of key action statements on the basis of systematic reviews of the literature of specific clinical topics. These recommendations can be incorporated with the physical therapist’s clinical expertise and the patient’s treatment needs and preferences to optimize health outcomes.6

Recognizing the importance of CPGs in the provision of high-quality health care, the APTA is supporting the development of CPGs as part of its evidence-based documents initiative,7 stemming from the APTA’s actions to reduce unwarranted variation in physical therapist practice and improve patient outcomes. To achieve this goal, the APTA has an initiative to increase the number of CPGs relevant to the physical therapy profession by educating researchers and supporting their work in the development of CPGs. Furthermore, the dissemination of the newly developed CPGs to the physical therapy profession at large is a high priority.6

The objective of this article was to assist the acute care physical therapist with developing an understanding of the purpose and structure of CPGs and the importance of incorporating CPG recommendations into clinical practice. To achieve this objective, this article addresses the following 5 questions: (1) What are CPGs? (2) How are CPGs developed? (3) How are CPGs accessed? (4) How are CPG recommendations used by clinicians? and (5) What are the barriers to, and strategies for, implementing CPGs into mainstream acute care physical therapist practice?

WHAT ARE CPGS?

Clinical practice guidelines are defined by the Institute of Medicine as “statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options.”5 Clinical practice guidelines are typically generated by a panel of experts convened on behalf of a professional association or other entity. The term CPG is used for the formal document, which often contains several individual recommendation statements for the clinician to use that will facilitate optimal and consistent patient management strategies. Standards on the components of high-quality CPGs have been published.4,5,9-11

The value of CPGs lies in the rigorously developed evidence-based recommendations for patient management. Because the CPG development “combines scientific evidence, clinician experiential knowledge, and patient values, CPGs have the potential to improve many clinician and patient health care decisions, and enhance health care quality and outcomes.”9

A common misunderstanding is that CPGs provide health care professionals with a universal protocol for diagnosis or treatment for specific conditions. Guidelines are not intended to supersede professional judgment; rather, they represent the best judgment of a team of experienced clinicians and methodologists addressing the scientific evidence for a particular topic.7 Thus, the acute care physical therapist’s clinical expertise is essential for the appropriate selection of the specific examination procedures recommended for a specific patient. Similarly, clinical decision making is required when selecting and adjusting interventions to achieve the patient’s physical therapy goals. Clinical practice guidelines are valuable because they provide high-quality evidence to assist physical therapists’ clinical decisions to promote delivery of the best care possible to patients.

Clinical practice guidelines are also useful resources for improving interprofessional coordination within and across health care systems. In this regard, CPGs can be used to educate and persuade other members of the health care team about optimal patient management strategies and to clarify the role of the physical therapist. Health care systems can benefit by using CPGs to provide validated evidence to inform development of system-wide policies and guidelines for patient care (see Table 1 for an example related to patient care in the intensive care unit [ICU]).

HOW ARE CPGS DEVELOPED?

Understanding the development process of CPGs leads to the more effective and appropriate use of CPGs by clinicians. Clinical practice guidelines recommendations are developed through a systematic review of the literature and the evaluation of that evidence
TABLE 1. Strategies for Using CPG Action Statements for Coordination of Services Within and Across Health care Systems, From Clinical Practice Guidelines for the Management of Pain, Agitation, and Delirium in Adult Patients in the Intensive Care Unit

| Component of the CPG | Extract From the CPG | Strategies |
|----------------------|----------------------|------------|
| Recommendation (p. 266) | “We recommend performing early mobilization of adult ICU patients whenever feasible to reduce the incidence and duration of delirium (+1B).” (+1B = strong recommendation for intervention based on evidence of moderate strength) | Early mobilization requires coordination among many members of the ICU team. This recommendation reinforces the value of this intervention to those directly involved (eg, physical therapist, nurse, and respiratory therapist) and indirectly involved (eg, physician) in this intervention. |
| Supporting analysis (p. 287) | “These studies suggest that early and aggressive mobilization is unlikely to harm ICU patients, but may reduce the incidence and duration of delirium, shorten ICU and hospital LOS, and lower hospital costs.” | The analysis explains the rationale for the recommended intervention and justifies secondary benefits. |
| Tools to facilitate implementation of the guideline—Pocket Card recommendations (p. 292) | “Patients should be awake and able to purposely follow commands in order to participate in their care unless a clinical indication for deeper sedation exists.” | Early mobilization requires a system-wide shift in patient management. The physical therapist may use these recommendations to advocate for changes in patient management or to inform quality improvement initiatives. |

with a transparent process that engages appropriate stakeholders, including patients, patient advocates, and representatives from private and public insurance companies. Currently, most CPGs require between 8 months and 4 years to develop, depending on the expertise available to access the topic, literature available, CPG leadership, and available resources. In this section, a brief overview of the major steps involved in the development of CPGs is provided. More detailed procedures are available in several excellent manuals describing the CPG development.

The initial step in the CPG development involves thorough planning. To begin, the topic of the CPG must be selected. The Institute of Medicine identified priority-setting criteria to guide the selection of CPG topics. These include the burden of the disease or condition on the patient, family, or society; existing controversy on aspects of measuring or managing the condition; the economic costs related to having the condition or for procedures and interventions; the availability of sufficient evidence; the availability of new evidence that might change prior recommendations; the potential to improve health outcomes; public or provider interest; and the desire to reduce unwarranted variations in care. The next step in the planning process is to convene the guideline development group (GDG). The GDG consists of stakeholders from all relevant health professions, patients, partner organizations, content experts, a health sciences librarian, and a CPG methodologist. These individuals need not all have expertise in the CPG topic area, but they must be willing to contribute to the development of the CPG according to their expertise. Once formed, the GDG meets to clearly define the scope of the CPG. This will include a description of the target condition or procedure, the target patient population or clinical presentation, the intended audience and clinical settings, the interventions to be included, and the patient outcomes being considered.

Following the planning stage, an initial literature search is performed to identify the best evidence currently available. This is ideally performed by a health sciences librarian, although members of the GDG and other stakeholders are encouraged to submit literature searches. If systematic reviews on the topic do not exist, the GDG may consider developing a systematic review prior to the development of the CPG. The search strategy is documented for reproducibility and transparency and includes details about...
key words and subject headings, databases, and the
time periods covered by the search. Once the litera-
ture is identified, the GDG appraises the literature to
determine the strength of evidence presented in each
article according to a previously agreed upon evalu-
ation scheme for assigning the strength of evidence.
At least 2 randomly assigned reviewers individually
appraise each article, and 90% agreement between
reviewers is recommended. All information about the
article, reviewers, and appraisal scores are recorded in
a summary grid for future reference. A list of topics
to include in the CPG is then generated on the basis
of the literature review and group consensus. The top-
ics are ranked in order of importance, and answerable
questions are developed.

The CPG content follows a specific format. The
standardized components of CPGs are the following:
introduction, scope, methodology, recommendations,
evidence supporting the recommendations, benefits/
harms of implementing the guideline recommenda-
tions, qualifying statements, implementation of the
guideline, Institute of Medicine National Health care
Quality Report Categories, identifying information
and availability, and disclaimer. Clinical practice
guidelines start with an introduction to the problem,
the history, and relevant issues. This is followed by the
scope of the CPG, the intended audience, the state-
ment of intent, and the methods used to develop the
CPG. Central to the CPG are the recommendations
in the form of key action statements. As previously
discussed, these statements are action-oriented pre-
scriptions of specific measurable clinical behavior.

Once all sections have been written, the draft CPG is
complete.

It has become increasingly recognized that input
from all stakeholders affected by a CPG is essen-
tial. Initially, feedback on the draft CPG is solic-
ted from content and methods experts. Feedback
is documented and the draft CPG is revised accord-
ingly. A second round of review is solicited from a
wide variety of health care professionals, patients,
organizations, health advocates, policy makers, and
key stakeholders. Again, feedback is documented
and the draft CPG is revised. A subsequent round
of review may be needed, depending on the feed-
back received. Throughout the entire process, poten-
tial bias from all stakeholders is minimized by the
transparency of the CPG development process and
conflicts of interest.

To disseminate the information obtained in CPGs,
they are usually submitted to a relevant journal for
peer-review and publication. Following publication,
the CPG is submitted to the National Guidelines
Clearinghouse (NGC) for inclusion in the repository
of CPGs to ensure widespread, free access, and dis-
semination.

In general, CPGs are updated or evaluated every
5 years. Thus, the final step is planning for the update
of the CPG.

HOW ARE CPGS ACCESSED?

Two Internet sources available for acute care physical
therapists to access CPGs are PTNow (www.
ptnow.org) and NGC (www.guideline.gov). PTNow
is an initiative of the APTA that provides tools for
advancing physical therapist practice. Available to
APTA members, it contains links to more than 375
published CPGs relevant to the practice of physical
therapy. All CPGs listed in PTNow (in the Guidelines
section) are based on systematic reviews of the evi-
dence; published by APTA sections or by other health
care associations, organizations, and societies, not
by individuals; and have been published within the
last 5 years. Although many of these CPG links are
also available in the NGC, PTNow offers an advanta-
ge over the NGC because PTNow organizes CPGs
by clinical conditions relevant to physical therapists,
thus streamlining the search process.

In addition to the links to CPGs found in the
Guidelines section, PTNow contains a wealth of
information, including a Clinical Summaries section,
describing the management of many conditions seen
by physical therapists; a Cases section, illustrating
the use of the information provided in the associated
Clinical Summary; a Tests and Measures section, list-
ing common assessment and outcome measures used
by physical therapists that are arranged by condi-
tion and functional limitation; a Cochrane Reviews
section, providing links to the Cochrane systematic
reviews relevant to physical therapists; and a Search
section, where members can conduct their own search
of the literature.

The NGC is an initiative of the Agency for Health-
care Research and Quality, US Department of Health
and Human Services, and is a free open-access pub-
lic Internet resource. The NGC mission is to provide
health care professionals, health care providers, health
plans, integrated delivery systems, purchasers, and
others with an accessible mechanism for obtaining
objective, detailed information on CPGs, and to fur-
ther their dissemination, implementation, and use.
The NGC Web site provides summaries of informa-
tion condensed from full CPGs, which have been
published in their entirety elsewhere. The additional
information in the full CPGs will benefit stakeholders
and those who want to understand the methods and
the analyses involved in developing the guideline.

On the NGC Web site, simply type in search terms
and select GO. A list of CPGs will be returned. Clicking
on a CPG title will lead to its Guideline Summary page.
From this page, it is easy to access the entire CPG. The
TABLE 2. Example of Using the NGC Web Site to Identify and Use a CPG to Assist in Answering a Clinical Question That Was Posted on the Acute Care List Serve

| Excerpt from the list serve | “I would love to hear what other facilities are doing in regard to the fall risk assessment.” |
|----------------------------|-----------------------------------------------------------------------------------------------|
| Search Web site            | National Guidelines Clearinghouse at http://www.guideline.gov/                                |
| Search term                | Fall risk assessment                                                                         |
| Search results             | Returned 380 relevant CPGs, the first was *Falls: Assessment and Prevention of Falls in Older People.* |
| Guideline access           | *Falls: Assessment and Prevention of Falls in Older People* was accessed by clicking on the link (title) in the search results. On the CPG’s Web page, the “Jump To” function was used to move to the “Recommendations” section of the CPG. |
| Recommendations (extracted from the larger list of recommendations in the guideline) | Predicting patients’ risk of falling in hospital  
Do not use fall risk prediction tools to predict inpatients’ risk of falling in hospital. [new 2013]  
Regard the following groups of inpatients as being at risk of falling in hospital and manage their care according to the following recommendations:  
• All patients aged 65 years or older  
• Patients aged 50-64 years who are judged by a clinician to be at higher risk of falling because of an underlying condition. [new 2013]  
Assessment and interventions  
Ensure that aspects of the inpatient environment (including flooring, lighting, furniture, and fittings such as hand holds) that could affect patients’ risk of falling are systematically identified and addressed. [new 2013]  
For patients at risk of falling in hospital (see recommendations previously), consider a multifactorial assessment and a multifactorial intervention. [new 2013]  
Ensure that any multifactorial assessment identifies the patient’s individual risk factors for falling in hospital that can be treated, improved, or managed during their expected stay. These may include the following:  
• Cognitive impairment  
• Continence problems  
• Falls history, including causes and consequences (such as injury and fear of falling)  
• Footwear that is unsuitable or missing  
• Health problems that may increase their risk of falling  
• Medication  
• Postural instability, mobility problems, and/or balance problems  
• Syncope syndrome  
• Visual impairment [new 2013]  
Ensure that any multifactorial intervention:  
• Promptly addresses the patient’s identified individual risk factors for falling in hospital  
• Takes into account whether the risk factors can be treated, improved, or managed during the patient’s expected stay. [new 2013]  
Do not offer falls prevention interventions that are not tailored to address the patient’s individual risk factors for falling. [new 2013] (http://www.guideline.gov/content.aspx?id=46931) |
| Guideline availability     | Scrolling down to the “Identifying Information and Availability” section revealed “Electronic copies: Available from the National Institute for Health and Care Excellence (NICE) Web site” (with hyperlink access) and “Availability of Companion Documents.” |
| Availability of companion documents | One of the companion documents was: “Falls: assessment and prevention of falls in older people. Baseline assessment tool. London (UK): National Institute for Health and Care Excellence (NICE); 2013 Jun. (Clinical guideline; no. 161). Electronic copies: Available from the NICE Web site” (with hyperlink access). |
| Available resource         | The link leads to “CG161 Falls: baseline assessment tool,” which was a tool for use by organizations to evaluate the extent to which practices are in line with the recommendations in the CPG and to help organizations plan activities to meet the recommendations. (continues) |
TABLE 2. Example of Using the NGC Web Site to Identify and Use a CPG to Assist in Answering a Clinical Question That was Posted on the Acute Care List Serve (Continued)

Analysis

This current, evidence-based CPG does not support the use of a fall prediction tool. All inpatients aged 65 years or older, and those inpatients aged 50–64 years with an underlying condition that a clinician judges will increase risk of falling, should be managed as having risk for falling. Critical review of the CPG can be completed on this site and by accessing the complete CPG (a 33 page document). Institutional assessment and initiatives are necessary to address fall reduction and access to those tools is provided.

Abbreviations: CPG, clinical practice guideline; NICE, National Institute for Health and Care Excellence.

JUMP TO tab allows for quick access to sections of the CPG. For example, selecting Recommendations leads directly to the CPG Recommendations section. Of note, the Identifying Information and Availability section contains a Guideline Availability subheading with a hyperlink to the supporting document. Also, within the Identifying Information and Availability section is an Availability of Companion Documents subheading. Hyperlinks to companion documents can be found there, including valuable resources for implementing CPGs, materials for promoting CPGs (eg, pocket cards), and strategies for executing components of the guideline. When available, the Patient Resources section will provide links to resources designed for patient education about the condition, diagnostic tests, and interventions. Table 2 presents an example of using the NGC Web site to identify and use a CPG to assist in answering a clinical question.

PTNow and the NGC are updated weekly. Both PTNow and NGC resources have powerful, intuitive search engines and robust search tips for users. Table 3 displays selected CPGs relevant to acute care physical therapist practice.

HOW ARE CPG RECOMMENDATIONS USED BY CLINICIANS?

Clinicians may find the Recommendations and Benefits/Harms of Implementing the Guideline Recommendation sections of the CPG to be the most practical components of every day practice. Every recommendation in a CPG is assigned a strength rating (Table 4) on the basis of the level of evidence available (Table 5) and the benefit-harm assessment. The recommendations in CPGs are in the form of key action statements. These statements are precise, concise descriptions of the expected specific, measurable actions that should be taken in a given circumstance to improve the quality of care. These statements are written in a standardized form detailing when the action should be done, who should perform the action, the level of obligation of the clinician to perform the action, a clear description of the action, and to whom the action should be performed. Key action statements are often supported by action statement profiles. Table 6 shows an example of a key action statement and the associated action statement profile.

WHAT ARE THE BARRIERS TO, AND STRATEGIES FOR, IMPLEMENTING CPGS INTO MAINSTREAM ACUTE CARE PHYSICAL THERAPIST PRACTICE?

Dissemination and implementation of CPGs are essential to ensure that the right patient receives the right care at the right time. Only when the knowledge has been implemented into practice will the patient experience improved health outcomes. Despite the proven benefit of evidence-based clinical recommendations, studies suggest that many of the recommendations are not routinely used in patient care. Unfortunately, simply publishing CPGs does not guarantee that a recommendation will be implemented. In a recent survey of primary care physical therapists, Bernhardsson and Larsson found that one-third of the 419 physical therapists surveyed reported being aware of CPGs. However, only 13% knew where to access CPGs, and only 9% reported having easy access to them. Fewer than half reported using CPGs frequently. This discrepancy between what is known and what is done can best be described as a knowledge translation or implementation gap.

Recent investigations suggest that physical therapists have a positive attitude about the concept of evidence-based practice and the importance of research for the profession. Furthermore, awareness of CPGs, a belief that CPGs positively affect practice, and knowing how to integrate patient preferences with the CPG use have been shown to be associated with the frequent use of guidelines. However, barriers to the implementation of CPG recommendations exist. Commonly cited barriers to the CPG implementation include lack of awareness of CPGs; poor availability and limited access to CPGs; lack of knowledge and skills needed for implementation; inability to interpret the guideline; practical barriers such as lack of time, equipment, and resources; and organizational, economic, and political factors that prevent implementation.
### TABLE 3. Selected Clinical Practice Guidelines Relevant to Acute Care Physical Therapist Practice

| Acute Care Topic Area | Clinical Practice Guideline |
|-----------------------|----------------------------|
| Cardiovascular        | The International Society of Heart and Lung Transplantation Guidelines for the Care of Heart Transplant Recipients [16] |
| Cardiovascular and pulmonary | Venous thromboembolism: reducing the risk. Reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital [NICE CG92] [17] |
| Critical illness      | Clinical practice guidelines for the management of pain, agitation, and delirium in adult patients in the intensive care unit [12] |
| Critical illness      | Rehabilitation after critical illness [NICE CG83] [18] |
| Geriatrics            | Physical restraints and side rails in acute and critical care settings. In: Evidence-based geriatric nursing protocols for best practice [19] |
| Integumentary         | Pressure ulcer prevention. In: Evidence-Based Geriatric Nursing Protocols for Best Practice [20] |
| Integumentary         | National Best Practice and Evidence-Based Guidelines for Wound Management [21] |
| Musculoskeletal       | Management of hip fracture in older people. A national clinical guideline [22] |
| Neuromuscular         | VA/DoD clinical practice guideline for the management of stroke rehabilitation [23] |
| Oncology              | Nutrition and physical activity guidelines for cancer survivors [24] |
| Orthopedics           | Management of Hip Fracture in Adults [NICE CG124] [25] |
| Pulmonary             | A clinical practice guideline for physiotherapists treating patients with chronic obstructive pulmonary disease based on a systematic review of the available evidence [with systematic review] [26] |
| Pulmonary             | Cystic fibrosis pulmonary guidelines: airway clearance therapies [with systematic review] [27] |

**Abbreviation:** DoD, Department of Defense; NICE, National Institute for Health and Care Excellence; VA, Veterans Administration.

### TABLE 4. Example of Criteria for Grade and Strength of Recommendations [9]

| Grade     | Recommendation | Quality of Evidence |
|-----------|----------------|---------------------|
| A         | Strong         | A preponderance of level I studies but at least 1 level I study directly on the topic support the recommendation. |
| B         | Moderate        | A preponderance of level II studies but at least 1 level II study directly on the topic support the recommendation. |
| C         | Weak           | A single level II study at less than 25% critical appraisal score or a preponderance of levels III and IV studies, including statements of consensus by content experts, supports the recommendation. |
| D         | Theoretical/foundational | A preponderance of evidence from animal or cadaver studies, from conceptual/theoretical models/principles, or from basic science/bench research, or published expert opinion in peer-reviewed journals, supports the recommendation. |
| P         | Best practice  | Recommended practice based on current clinical practice norms, exceptional situations where validating studies have not or cannot be performed and there is a clear benefit, harm, or cost, and/or the clinical experience of the guideline development group. |
| R         | Research       | There is an absence of research on the topic, or higher-quality studies conducted on the topic disagree with respect to their conclusions. The recommendation is based on these conflicting or absent studies. |
TABLE 5. Example of Criteria Used to Determine the Level (Quality) of Evidence

| Level | Criteria |
|-------|----------|
| I     | Evidence obtained from high-quality diagnostic studies, prognostic or prospective studies, cohort studies or randomized controlled trials, meta analyses or systematic reviews (critical appraisal score >50% of criteria). |
| II    | Evidence obtained from lesser-quality diagnostic studies, prognostic or prospective studies, cohort studies or randomized controlled trials, meta analyses or systematic reviews (eg, weaker diagnostic criteria and reference standards, improper randomization, no blinding, <80% follow-up) (critical appraisal score <50% of criteria). |
| III   | Case-controlled studies or retrospective studies |
| IV    | Case studies and case series |
| V     | Expert opinion |

TABLE 6. Example of a Key Action Statement and Action Statement Profile From the CPG Identification and Referral of Infants With Congenital Muscular Torticollis (CMT)

A. ACTION STATEMENT 1: IDENTIFY NEWBORN INFANTS AT RISK FOR CMT. Physicians, nurse midwives, obstetrical nurses, nurse practitioners, lactation specialists, PTs or any clinician or family member must assess the presence of neck and/or facial or cranial asymmetry within the first 2 days of birth, using passive cervical rotation, passive lateral flexion, and/or visual observation as their respective training supports, when in the newborn nursery or at site of delivery. (Evidence Quality: I; Recommendation Strength: Strong)

ACTION STATEMENT PROFILE

Aggregate Evidence Quality: Level I. Based on the odds ratios (OR) and confidence intervals (CI) for prediction of CMT from facial asymmetry (OR: 21.75; CI: 6.60-71.70) and plagiocephaly (OR: 23.30; CI: 7.01-70.95).

Benefits:
- Early identification of infants at risk for CMT or other conditions that might cause asymmetries.
- Early onset of intervention for infants with CMT if referred.
- Reduced episode of care to resolve CMT, with consequent reduction in costs.
- Reduced risk of needing more aggressive interventions (Botox or surgery) in the future.

Risk, Harm, and Cost:
- Potential of over-identification of infants may increase costs.
- Potential of increasing parent anxiety.

Benefit-Harm Assessment: Preponderance of Benefit

Value Judgments: None

Intentional Vagueness: None

Role of Patient/Parent Preferences: Although parents may not be skilled in infant assessment, mothers who are breastfeeding may notice that the infant has greater difficulty feeding on one side, or may notice asymmetry in photographs, and these observations should trigger ROM screening by an attending clinician.

Exclusions: None

Abbreviations: CMT, congenital muscular torticollis; PT, physical therapist; ROM, range of motion.
To facilitate the CPG implementation, it is important to identify the barriers specific to one’s own organization and implement strategies aimed at reducing the particular barriers identified.37 Excellent resources for identifying barriers to change and tools to implement evidence uptake have been developed by the Australian National Institute of Clinical Studies.39,40 Recommendations to integrate best practice into routine hospital care include a 10-step implementation process of checking existing policies, conducting a clinical audit, forming a team, developing a hospital-wide policy, raising awareness, understanding barriers, developing a plan, implementing it, monitoring progress, and sustaining improvements.40 Therefore, despite the presence of barriers unique to each health care environment, resources exist to facilitate the implementation of CPG recommendations.

An effective strategy to reduce the knowledge-to-practice gap in health care delivery is through systematic quality improvement (QI) processes. Quality improvement attempts to change clinician behavior and, through those changes, leads to more consistent, appropriate, and efficient application of established clinical interventions, resulting in improved care and patient outcomes.41 The QI initiatives offer system-wide strategies for implementing CPGs and for gaining efficiencies within and across hospitals and health care systems.

For example, in the area of critical care, QI initiatives promoting mobility interventions for patients with critical illness have demonstrated key benefits for patients, health care systems, and society. These include optimization of patient care and therefore patient outcomes, identification of efficiencies in health care delivery, and reductions of the societal burden of chronic disability.42-45 Although full review is beyond the scope of this article, ICU early mobility and rehabilitation QI initiatives have been published, including the implementation of a comprehensive, structured QI program in a medical ICU at the Johns Hopkins Hospital in Baltimore, Maryland,45 a physical therapist-driven QI initiative in a mixed medical-surgical ICU at the University of California San Francisco Medical Center in San Francisco, California,46 and a QI project in the medical ICU at the Wake Forest University Medical Center in Winston Salem, North Carolina.47 The patient-centered outcomes for all the 3 QI initiatives were positive, and reduced system costs were observed in 2 QI initiatives that included financial analysis.45-47 Recently, the processes used to implement early mobility programs in the ICUs at these 3 different medical centers45-47 were compared and contrasted, and the effect on clinical outcomes for patients with critical illness was assessed.48 Although the QI processes used at each institution differed, they were all consistent with the Plan-Do-Study-Act framework endorsed by the Institute for Healthcare Improvement Model for Improvement.49 At each institution, early rehabilitation and mobility of patients with critical illness were associated with significant improvements in both short- and long-term physical and neurocognitive outcomes in ICU survivors. The examples provided in this article48 may help facilitate the development and implementation of similar ICU early rehabilitation and mobility programs at other facilities.

**CONCLUSION**

Clinical practice guidelines assist clinicians in translating best evidence into practice. Patient outcomes are optimized when CPGs are used because of the reductions in practice variations, improvements in diagnostic accuracy, the use of effective interventions, and discontinuation of ineffective, or potentially harmful, practices.4-5 Given the high quality of evidence contained in CPGs, coupled with the potential to optimize patient outcomes, we recommend physical therapists use CPGs as key evidence-based resources and implement the relevant recommendations in the management of their patients and for coordination and collaboration with other members of the health care team.

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