Reinventing Therapy Frequency: Recommendations for the Medically Complex Patient

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Abstract

This article outlines the differences between a traditional restorative model of therapy and a maintenance model of therapy. It defines medical complexity and skilled care as it pertains primarily to physical, but occupational and speech therapy as well, and explores why the medically complex therapy patient requires consistent skilled care. Individualizing therapy frequency by properly quantifying the utilization (frequency and duration) for the medically complex patient enables the life care planner to better meet the rehabilitation needs of this population.

Definitions

Rehabilitation in physical therapy has traditionally been focused on a model of restoring or improving functioning, which means functioning is either improved from one's normal state or improved when function is lost. Consider these two definitions: "Restoration especially by therapeutic means to an improved condition of physical function" (Webster, 2020) and "the action of restoring someone to health or normal life through training and therapy after imprisonment, addiction, or illness" (Lexico, 2021). In both these definitions restoration to normal health or improved function is the goal. Rehabilitation professionals are experts in the art of maximizing function and restoring the individuals in their care to their prior level of function or as close as possible given the nature of their injury or illness. Restoring function is ingrained in therapist's education, training and ultimately their clinical experience. Historically, the traditional restorative therapy model is the prescribed course of therapy with very few exceptions and is typically of short duration and relatively high frequency (e.g. three times per week for four weeks). The need for a restorative course of therapy is almost always preceded by an incident of onset, such as a sports injury, car accident or stroke. There are instances where the incident of onset is more vague such as in cases of exacerbation of underlying conditions like knee osteoarthritis. However, in both circumstances of exacerbation

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and acute injury, the unifying goal of therapy is always improvement. The traditional therapy model involves making focused goals towards improvement, with subsequent discharge when the goal is met, or the patient's progress plateaus. Examples include pain reduction, improvement of a range of motion deficit, independence with transfers etc. The expectation is that patients will improve in a reasonable amount of time.

Maintenance therapy differs from traditional, restorative, therapy in that improvement is not expected. Maintenance is defined as "the process of maintaining or preserving someone or something, or the state of being maintained." (Lexico, 2021) Return to the prior level of function is not anticipated. Often a recent and/or clear incident of onset is not obvious and chronic disease and/or disability is front and center. This course of therapy is intended to stabilize or slow the natural course of deterioration with a progressive condition or to prevent potential sequelae that may occur. Maintenance therapy is frequently the appropriate course for medically complex patients. These services are typically delivered at a decreased frequency but with a much longer duration (e.g. one time a week for 50 weeks/year). Need for maintenance therapy depends not on the patient's restoration potential, but on whether skilled care is required, along with underlying reasonableness and necessity of the services themselves (CMS Centers for Medicare & Medicaid Services, 2021b). The clinical diagnosis on its own does not determine the appropriateness of a maintenance course of therapy though many individuals suffering from chronic diseases such as ALS or multiple sclerosis would benefit as would some patients with complex orthopedic injuries, chronic pain or status post stroke for instance (CMS Centers for Medicare & Medicaid Services, 2021b). This type of therapy is indicated when the therapeutic interventions cannot be safely and effectively carried out by the patient themself or with the assistance of unskilled caregivers.

Maintenance Model vs. Restorative Model of therapy

When comparing the maintenance therapy model to the restorative model there are several key criteria that must be met in either scenario. In this respect maintenance and restorative courses are the same. The services must be reasonable, necessary and skilled. In order to compare these two models of therapy, we must first understand the following definitions.

Reasonable and Necessary

CMS defines reasonable and necessary as: "a.) safe and effective (versus experimental or investigational), b.) appropriate, including the duration and frequency that is considered appropriate for the service, in terms of whether it: is provided within accepted standards of medical practice for the diagnosis or treatment of the patient's condition, or to improve the function of a malformed body member; is furnished in a setting appropriate to the patient's medical needs and condition; is ordered and provided by qualified personnel; meets, but does not exceed, the patient's medical need" (Palmetto GBA, 2021). CMS defines skilled care as: Is medically necessary care that can only be provided by or under the supervision of skilled or licensed medical personnel (CMS Centers for Medicare & Medicaid Services, 2021a).

Skilled Therapy

Skilled rehabilitative therapy occurs when "The skills of a therapist are necessary to safely and effectively furnish a recognized therapy service whose goal is improvement of an impairment or functional limitation." It is predicated on proficiency, facility, or dexterity that is acquired or developed through training or experience, an art, trade, or technique (CMS Centers for Medicare & Medicaid Services, 2020).

Skilled maintenance therapy occurs when the skills of a therapist are necessary to safely and effectively furnish a recognized therapy service whose goal is to maintain the patient's practicable level of function and/or slow deterioration.

Skilled care may be necessary to improve a patient's current condition, maintain the patient's current condition or prevent or slow further deterioration of the patient's condition. Skilled therapy must be of a complexity that requires the services of a skilled therapist. A layman could not safely and effectively carry out the treatment. Given the definitions above, a care process must be reasonable and necessary, but the goal of may differ depending on whether it is an improvement process or one of maintenance. The determination on which is emphasized is not only a matter of the training of the professional, but is a matter of whether the prognosis of the diagnosis includes the possibility of improvement or restoration. In many medically complex diagnoses or chronic diseases, restoration of prior functioning is not a reasonable goal.

Medical Complexity/Complex Chronic Disease

Complex medical conditions are emergent, persistent and substantially debilitating. Complex chronic disease (CCD) conditions involving multiple morbidities that require the attention of multiple health care providers or facilities and possibly community (home)-based care. A patient with CCD presents to the health care system with unique needs, disabilities, or functional limitations (Sevick et al., 2007).

The medically complex population should be familiar to life care planners. The International Academy of Life Care Planners definition of a life care plan: "The life care plan is a dynamic document based upon published standards of practice, comprehensive assessment, data analysis, and research, which provides an organized, concise plan for current and future needs with associated costs for individuals who have experienced catastrophic injury or have chronic health care needs [emphasis added]" (IARP International Association of Rehabilitation Professionals, 2021).

Like many in the healthcare field who practice life care panning, physical therapists work with patients with spinal cord injury symptoms of hypertonicity/spasticity, autonomic dysreflexia, and neuropathic osteoporosis. Other example diagnoses and symptomology are: Acquired brain injuries with behavioral/cognitive issues, spasticity/tonal imbalances, and seizures; burns with tissue frailty, contracture, and chronic pain; chronic pain with Co-occurring mental disorders (e.g. depression, anxiety) and pharmacological concerns.

Common Skilled Therapy Modalities and Interventions

When making physical, occupational or speech therapy recommendations in a life care plan, the scope of services that comprise that therapy are not usually explored and de-

Table 1

Key Differences Between Restorative and Maintenance Therapies

Restorative	**Maintenance**
Absence of severe chronic disease or disability that limits rehab potential	Chronic disease or disability is at the forefront in limiting rehab potential
Clear incident of onset	Often less clear incident of onset
Potential to regain prior level of function	Not expected to regain pre-injury/illness level of function
Objective/measurable improvement is anticipated in all areas addressed (e.g. transfers, pain, strength, balance etc.) and in a reasonable and generally predictable period of time. Short-term and long-term goals as established accordingly	Improvement is not anticipated. The goal is to maintain the patient's practicable level of function and/or slow deterioration. Goals are established accordingly.
Higher frequency and shorter duration (e.g. 2-3 x week for 6 weeks)	Lower frequency and much longer duration (e.g. 2-4 x month for 12 months)
Discharged with a home exercise program that the patient can perform independently or with assistance of an unskilled caregiver	Home program cannot be safely and effectively carried out by the patient or unskilled personnel
Upon reaching goals and discharged, the patient is stable	Decline is probable without continuation of skilled care

fined. Without an understanding of the proper scope of those recommendations, it is difficult to know if skilled or unskilled services are reasonable or necessary. Certain interventions and modalities can, by their nature, only be exclusively, safely and effectively delivered by a skilled therapist, while others may be carried out by non-skilled personnel provided that they have received the proper training. Assessment, evaluation and clinical decision-making, however, must be carried out by a skilled therapist. The skilled therapy interventions below are primarily physical and occupational therapy interventions.

Deep Heat

Deep heat modalities include ultrasound, shortwave diathermy (SWD) and microwave diathermy (MWD). Ultrasound is, however, the most used deep-heating agent. The ultrasound machine converts electrical energy into acoustic energy via the piezoelectric effect. SWD and MWD convert electromagnetic energy to thermal energy. Thermal energy (high temperature; heat) provides pain relief, increase in local blood flow, metabolism, and elasticity of connective tissues. The non-thermal effects of ultrasound may improve or repair soft tissue injury, slowing the inflammatory response and protein synthesis, while modulat-

ing membrane properties. Phonophoresis (Sonophoresis) is the use of ultrasound to drive medications into and through skin (PM&R Knowledge Now, 2016). Deep heat modalities have a number of contraindications and there is substantial risk of burns and tissue damage if done incorrectly; therefore, they must always be applied by a skilled therapist.

Iontophoresis

Iontophoresis is the use of a specialized electrical stimulation machine and electrodes or plates to deliver a medication through the skin barrier (PM&R Knowledge Now, 2016). Similar to phonophoresis, this is always a skilled modality.

Vestibular Rehabilitation Therapy (VRT)

Vestibular Rehabilitation Therapy (VRT) is a specialized form of therapy intended to alleviate both the primary and secondary problems caused by vestibular disorders. It is an exercise-based program primarily designed to reduce vertigo and dizziness, gaze instability, and/or ease imbalance and the propensity for falls. VRT begins with a comprehensive evaluation. Patients are seen by a licensed physical or occupational therapist with advanced post-graduate training (Vestibular Disorders Association (VEDA), n.d.).

Manual Therapy Techniques

The International Federation of Orthopedic Manipulative Physical Therapists (IFOMPT) defines manual therapy techniques as: "Skilled hand movements intended to produce any or all of the following effects: improve tissue extensibility; increase range of motion of the joint complex; mobilize or manipulate soft tissues and joints; induce relaxation; change muscle function; modulate pain; and reduce soft tissue swelling, inflammation or movement restriction" (Physiopedia 2021). Physical therapists select, prescribe, and implement manual therapy techniques when the examination findings, diagnosis, and prognosis indicate use of these techniques to decrease edema, pain, spasm, or swelling; enhance health, wellness, and fitness; enhance or maintain physical performance; increase the ability to move; or prevent or remediate impairment in body functions and structures, activity limitations, or participation restrictions to improve physical function. Manual therapy techniques may include the following: manual lymphatic drainage; manual traction; active release techniques; instrument assisted soft tissue mobilization; trigger point therapy; massage of connective tissue massage or therapeutic massage (e.g. cross-friction, myofascial release); mobilization of spinal and peripheral joints (thrust and non-thrust manipulation); soft tissue mobilization; dry needling; neural tissue mobilization; active range of motion (AROM); active assisted range of motion (AAROM); or passive range of motion (PROM)(APTA Guide to Physical Therapist Practice, 2021).

With the exception of range of motion, all of the above techniques require the skills of a trained therapist, However, even ROM requires skill in circumstances where there is risk for fracture, abnormalities in muscle tone, or when graded resistance or assistance is required.

Neurological Physical Therapy

Neurological Physical Therapy is a form of therapy that is focused on working with people who have a type of neurological disorder or disease. The types of neurological diagnosis treated by this form of physical therapy may include traumatic brain injury, ALS, Alzheimer's disease, cerebral palsy, Parkinson's disease, multiple sclerosis, stroke, or spinal cord injuries (Disabled World, 2017).

Some common neurorehabilitation techniques are NDT/Bobath, movement therapy/Brunstrum, PNF/Proprioceptive Neuromuscular Facilitation, and sensorimotor/Rood. The implementation of any of these approaches requires extensive training and clinical skill (Ideas for OT, n.d.).

Therapeutic Exercise

Therapeutic Exercise is the systematic performance or execution of planned physical movements or activities intended to enable the patient or client to remediate or prevent impairments of body functions and structures, enhance activities and participation, reduce risk, optimize overall health, enhance activities and participation, reduce risk, optimize overall health, and enhance fitness and wellbeing" (APTA Guide to Physical Therapy Practice, n.d.). Common Types of Therapeutic Exercise include: strengthening exercises, usually performed with heavier resistance and fewer repetitions (e.g. 8-12 repetitions); endurance exercises engage large muscle groups over a longer period of time, in the area of 50 to 60% VO2Max to achieve greater cardiovascular endurance; flexibility exercises achieved through stretching and movement; and, balance and coordination exercises that focus on maintaining an individual's center of gravity.

The effectiveness of therapeutic exercise is undeniable, however it must be properly dosed to be safe and effective. The exercise prescription generally follows the FITT pneumonic:

- F- frequency: number of days per week
- I- Intensity: low, moderate or vigorous
- T- Time: minutes per session for endurance exercise
- T- Type: endurance, strength, flexibility or some combination (APTA Guide to Physical Therapy Practice, n.d.).

Proper exercise dosing and periodic progression and/or modification of an exercise program requires clinical skill. Frequently a home-exercise program or aspects of a home-exercise program can be carried out by the patient or under the supervision of a trained caregiver. However, there are instances when that is not safe. A common example would be when prescribing dynamic balance exercises to a patient with high fall risk and osteoporosis. In order to be effective, balance exercises need to be of a difficulty that translates into a 25% failure rate. Failure equates to a loss of balance sufficient to cause a fall. Another example would be in the case of an individual that suffered a SCI and has severe lower extremity spasticity requiring tone reducing techniques in order to stretch effectively.

Common Unskilled Therapy Interventions

Range of Motion

Range of motion interventions include basic passive, active assistive or active range of motion that do not require careful modulation of resistance or assistance, inhibition or facilitation of movement.

Therapeutic Exercises

Therapeutic exercises include a home exercise plan that has been prescribed by a therapist and identified to be safe and effective without the continuous need for skilled intervention. Periodic reassessment would still be necessary for modification of the plan.

Superficial Heat

Commonly used superficial heat modalities include hot packs, heating pads, and paraffin bath. They are used to increase the temperature of the skin, fat, blood vessels, nerves, and increase circulation and provide pain relief.

Cryotherapy

Cryotherapy means ice or cold application. Ice is believed to control pain by instigating local anesthesia. It also decreases edema, nerve conduction velocities, cellular metabolism, and local blood flow.

Walking Program

A walking program is an independent or supervised ambulation program that may be prescribed by a medical professional. May entail use of an assistive device and self-monitoring of vital signs such as heart rate. Not to be confused with gait training that is a skilled intervention that may include facilitation or inhibition of certain movement patterns and manual, verbal and demonstrative cueing to allow for or improve functional gait.

Frequencies of PT Delivery

Restorative Frequency and Duration

According to CMS, The frequency refers to the number of times in a week the type of treatment is provided. Where frequency is not specified, one treatment is assumed" (Medicare Benefit Policy Manual, n.d.). Duration is defined as "the number of weeks, or the number of treatment sessions, for THIS PLAN of care" (Medicare Benefit Policy Manual Chapter 15 – Covered Medical and Other Health Services, 2003).

In traditional/restorative therapy, frequencies are of high intensity: 2, 3, 5 times per week and duration is of low intensity, or 4, 6, 12 weeks. When determining traditional therapy frequency and duration medical professionals often fall into scheduling habits; consequently, life care plans commonly have recommended frequencies such as: 3 times a week for 4 weeks or 2 times a week for 8 weeks. These often-used frequencies and durations do not always reflect the specific treatment needs of the individual. Therefore, when possible it is helpful to refer to clinical practice guidelines or established protocols when recommending

the frequency and duration. An example would be physical therapy following total shoulder replacement with a frequency of: 3 times a week for 12 weeks (The Ohio State University Wexner Medical Center, n.d.).

However, this specificity is not always possible especially with diagnoses that are not acute or clearly defined, such as late effects of CVA or exacerbation of low back pain. In those instances, the clinical judgement of a treating therapist or physician would be most helpful, and a range is often useful, such as two-to-three times a week for four-to-six weeks.

Regardless of diagnosis, acuity, age, symptomatology etc., when recommending a restorative course, it is imperative to keep in mind that objective/measurable improvement is anticipated in all areas addressed and in a reasonable and generally predictable period of time. Once goals are met the patient is discharged.

Maintenance Frequency and Duration

Unlike traditional/restorative therapy, maintenance therapy frequencies are of much less intensity: 1 time week, 1 time every two weeks, 1 time month and duration is of high intensity; for example, 26 weeks/year, 50 weeks/year, or 12 months/year.

Unfortunately the vast majority of therapists and physicians are unfamiliar with maintenance therapy; consequently, when consulted their recommendations will almost invariably mirror a restorative therapy prescription despite the fact that the patient is not expected to improve, is medically complex, and will regress functionally and otherwise if not provided with skilled care. Providing educational resources specific to maintenance therapy often proves helpful.

The Maintenance Therapy Benefit as Law; CMS & Jimmo v. Sibelius

Health care in the United States is heavily influenced by the Centers for Medicare and Medicaid Services (CMS). CMS is a part of the Department of Health and Human Services and provides health coverage to more than 100 million people through Medicare, Medicaid, The Children's Health Insurance Program and the Health Insurance Marketplace.

Medicare is the ultimate collateral source, spending $799.4 billion in 2019 or 21% of total National Health Expenditures (CMS Centers for Medicare & Medicaid Services, 2019b).

As a result of its enormous scope, CMS and specifically Medicare is a major driver of healthcare policy. When CMS changes or clarifies a policy/regulation it influences the rest of the market. This was clearly demonstrated following the January 24, 2013 settlement agreement in the case of Jimmo v. Sebelius, in which the plaintiffs alleged that Medicare contractors were inappropriately applying an "improvement Standard" in making coverage determinations (CMS Centers for Medicare & Medicaid Services, 2021b).

The settlement resulted in a clarification of the maintenance therapy and skilled nursing policy for Medicare beneficiaries which:

- Defined skilled maintenance therapy and skilled nursing
- Repudiated the improvement standard
- Clarified that maintenance is not limited to specific diagnosis

- Clarified that there are no specific time limitations to care.
- Stated that diagnosis of dementia or altered cognitive status does not preclude care
- Applies to multiple settings: home health, outpatient, skilled nursing facilities
- Stated that the beneficiary must require skilled services that are reasonable and necessary (CMS Centers for Medicare & Medicaid Services, 2019a).

The settlement agreement mandated that CMS update its provider manuals and mount an educational campaign for contractors, adjudicators, providers, and suppliers. Despite these efforts the vast majority of clinicians are still unaware of maintenance therapy as an option for their medically complex patients that are not expected to improve. While therapists understand intuitively the benefit of skilled care for this population, they do not realize that the services are covered and reimbursable. All too often these patients are discharged once they fail to improve or plateau; consequently, they deteriorate.

Use of support care staff to supplement maintenance therapy

When establishing a care plan or making recommendations in a life care plan, it is extremely important to take into consideration and utilize the resources/supports available to the individual. Individuals in need of a life care plan by definition have experienced catastrophic injury or have chronic health care needs. Nearly always they require attendant care in some capacity to assist with activities of daily living (ADls), functional mobility etc. When establishing and carrying out a maintenance course of therapy it is appropriate for the therapist to train the caregiver/s in performance of the aspects of the home program that can be safely and effectively carried out by a non-therapist. The caregiver/s may be a home health aide, CNA, massage therapist, personal trainer, family member etc. Frequently the individuals themselves can perform aspects of the program once properly trained such as basic ROM exercises. In these cases the skilled therapist would come in periodically to provide skilled hands-on care and provide the clinical judgement necessary to evolve the program based on their reassessment of the individual and their function and needs. It is also important to keep in mind that agency CNA/home health aide turnover is very high, averaging 64.3% in 2019 (down from 84% in 2018) necessitating frequent retaining of support care staff (Home Health Care News, 2020).

Choosing the Appropriate Frequency, Restorative or Maintenance

When recommending a maintenance vs. traditional therapy frequency some key questions should be asked and answered in order to determine the appropriate course:

a Is the person being evaluated medically complex?

b Are they expected to improve (e.g. regain their prior level of function) in a reasonable amount of time?

c Does the necessary treatment require the skills of a therapist to safely and effectively carry it out?

d Is it probable that the person being evaluated will regress functionally without ongoing skilled therapy?

Table 1 above can be referenced for a list of key differences in these approaches.

For those individuals that would benefit from maintenance therapy it is probable that during certain periods during their life span they will also need periodic courses of restorative care. Life care plans should account for these occurrences. An example would be an individual with a cervical spinal cord injury that requires a maintenance course of physical therapy of 40-60 visits per year and develops heterotrophic ossification at the hip requiring surgery. Following surgery, he will need a restorative course of therapy (e.g. 3 times a week for 6 weeks). Once he achieves his goals with restorative therapy, he and his caretakers would revert back to the maintenance therapy frequency.

Conclusion

Historically, maintenance therapy has been poorly understood and severely underutilized by the medical community, but hopefully this is changing. Therapy is a frequent and vital component of the majority of life care plans. Most individuals who need a life care plan have chronic conditions resulting from injury or illness and are medically complex. Establishing the correct frequency of future therapy is critical for this population. Maintenance skilled therapy is critical in halting or slowing decline and keeping individuals out of the hospital, maximizing, and stabilizing function and improving overall quality of life.

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