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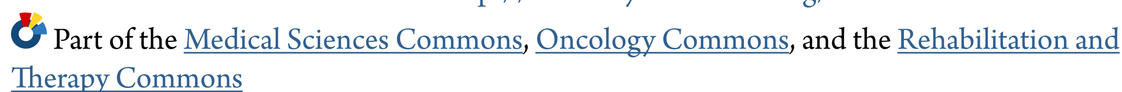
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Incorporating Rehabilitation Services into Oncology Site-specific Clinical Practice Guidelines

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Significance and Background:

The disease management initiative was formulated at Lehigh Valley Health Network in 1997 for the purpose of ensuring the delivery of quality, evidenced-based cancer care and for monitoring the outcomes of our care delivery efforts. This nurse coordinated program has evolved into seven site-specific, multidisciplinary, disease management groups charged with reviewing national guidelines and standards of care as well as researching current evidence bases to formulate our institution's Clinical Practice Guidelines in Oncology. Following the recent National Comprehensive Cancer Network initiative, we are expanding these guidelines to include elements of care which are vital to the patient's overall outcome and quality of life. The example for presentation is Rehabilitative Services; specifically as incorporated into our Central Nervous System algorithm.

Purpose:

The purpose of integrating Rehabilitation as well as other ancillary services into Clinical Practice Guidelines is to promote a comprehensive, multidisciplinary approach to cancer care within our health network.

Interventions:

A multidisciplinary team of Rehabilitation Program professionals developed an evidence-based algorithm to identify immediate and long-term physical sequelae resulting from disease or treatment. Predisposing factors, descriptions of interventions and notation of appropriate consult targets were also included. A nurse led work-group added information to the predisposing factors, such as specific agents contributing to the late effects of chemotherapy. The information was then presented to the disease management team for review and incorporation into the Central Nervous System Guidelines. The design of this initial algorithm will serve as a template for additional ancillary care protocols such as survivorship. Our guidelines can be easily accessed by network providers on our intranet site.

Lehigh Valley Health Network Cancer Program
CLINICAL PRACTICE GUIDELINES FOR THE MANAGEMENT OF
CENTRAL NERVOUS SYSTEM CANCERS
2009

APPROVED BY:

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FILE:

DATE: 5/9/08 (original)
REVISED: 06/30/09
APPROVED: 07/23/09

I. **Introduction/Purpose:** Patients have a right to expect that treatment recommendations reflect not only national consensus, but also are evidenced based and cost effective in their approach. The disease management team will adopt the NCCN guidelines as a model for the development of guidelines of care; and examine, as data is available, the costs associated with these guidelines at Lehigh Valley Health Network, the development of efficient pathways to minimize the cost and maintain quality outcomes.

II. **Scope:** These clinical practice guidelines will apply to all physicians, nurse practitioners, and physician assistants who provide treatment to adult patients with the diagnosis of a cancer within the central nervous system.

III. **Process/Intervention:** Algorithm attached.

IV. **Evaluation/Outcomes:** Practice patterns will be monitored through the oncology disease management groups based on tumor registry abstract data. This process will be followed by reevaluation of outcomes and recommendations for improved delivery of care by the disease management committee.

V. **Evidence:** These clinical practice guidelines are based on:
1. National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology – Version 1.2008 and V.1.2009 Central Nervous System Cancers.
2. Additional references as noted.

VI. **Note:** These clinical practice guidelines are primarily developed through an evidence-based approach, utilizing the National Comprehensive Cancer Center recommendations for clinical practice. Adherence to these parameters is voluntary except where a statement herein explicitly indicates otherwise. These parameters should not be considered inclusive of all proper methods of care or exclusive of other methods of care reasonably directed that obtain the same outcome.

VIII. REHABILITATIVE SERVICES

C.N.S. Physical Sequelae-Immediate	Predisposing Factors	PT	OT	SLP	AUD	CR	PR	Description of Intervention
Cognitive Impairment	Tumor Location Surgery Steroid therapy Anticonvulsant therapy RT brain edema		x	x				OT and speech assessment and treatment
Vocal cord paralysis, speech problems and/or swallowing difficulty [2,8,19,20,24]	Tumor Location Surgery RT to salivary gland area			x				Speech, cognitive and swallowing assessment and treatment
Impaired posture related to post-op surgical compensation [2,11,14, 19,20]	Affects of disease Spinal surgery	x						Postural correction, abdominal and core muscle strengthening
Myopathy, Impaired muscle performance, joint mobility, motor function [2,11, 12, 14]	Affects of disease Surgery Steroid therapy	x	x					Ambulation needs; functional motion for ADL needs; core strength/supporting trunk musculature for quality of movement; fine motor coordination issues
Impaired aerobic capacity and endurance [1,2,4,5,6,8,13,14,25,26]	Pre-operative debilitation and cumulative treatment-related fatigue	x	x					PT for exercise and conditioning for cancer related fatigue OT for energy conservation strategies
Ototoxicity and balance disturbances [2,8,10,19,20,24]	Tumor location Brain edema Cranial RT	x			x			Audiology for VNG (videonystagmography) PT balance/vestibular specialists
Impaired motor function & sensory integrity associated with polyneuropathy (post-surgical or chemotherapy induced) [2,3,6, 9,15,19,20]	Affects of disease Surgery Skeletal RT	x	x					PT for skin inspection, protection, weakness, foot drop, gait disturbance OT for sensory loss compensation, fine motor coordination issues
Avascular necrosis- acute [2,10,18]	Steroid therapy (within a few weeks of starting)	x						PT assessment and treatment for gait; safety pending orthopedic follow-up

Physical Sequelae – Long-Term	Predisposing Factors	PT	OT	SLP	AUD	CR	PR	Description of Intervention
Skeletal demineralization; Osteoporosis [2,10,11,19, 20]	Steroid therapy Skeletal RT	x						Education in weight bearing exercise & strengthening
Proximal muscle weakness and eventual muscle wasting, primarily in the pelvic girdle, proximal UE and neck [3]	Total steroid dose	x	x					PT for core strengthening; postural muscle endurance; pelvic floor specialists; OT for energy conservation; ADL retraining
Cardiac complications related to late effects chemotherapy [1,2, 5,9, 10,19]						x		CR to promote endurance
Pulmonary complications related to late effects chemotherapy [1,2,4,5,10]	Carmustine/ BCNU Total steroid dose		x				x	PR to improve conditioning OT for energy conservation and ADL retraining
Cancer related pain [1,2,8,9,10,12,16,24]		x	x					Pain management with non-pharmacologic modalities.
Late effect avascular necrosis [18]	Steroid therapy (within a few weeks of starting)	x						PT assessment and treatment for gait; safety pending orthopedic follow-up

PT = Physical Therapy
OT = Occupational Therapy
SLP = Speech/language pathology
AUD = Audiology
CR = Cardiac Rehab
PR = Pulmonary Rehab

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Evaluation:

Disease Management Groups review and update all guidelines on an annual basis. Rehabilitation will evaluate referral patterns and patient satisfaction as initial quality measures. The Nurse Coordinator will develop outcome measurement tools to augment the quality process.

Discussion:

Expanding our Clinical Practice Guidelines from a traditional physician focus has provided an educational experience for our entire oncology team. Providers demonstrate a heightened commitment to guideline development and outcome evaluation. Nursing leadership has utilized a strong evidence-based format to enhance the delivery of cancer care at Lehigh Valley Health Network.

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