



Sacred Heart
UNIVERSITY

Sacred Heart University
DigitalCommons@SHU

Physical Therapy Faculty Publications

Physical Therapy & Human Movement Science

Summer 1996

Maximizing Clinical Education Options in Cardiopulmonary Physical Therapy

Beverly D. Fein

Sacred Heart University, feinb@sacredheart.edu

Follow this and additional works at: https://digitalcommons.sacredheart.edu/pthms_ptfac



Part of the [Medical Education Commons](#), and the [Physical Therapy Commons](#)

Recommended Citation

Fein, B. D. (1996). Maximizing clinical education options in cardiopulmonary physical therapy. *Cardiopulmonary Physical Therapy Journal*, 7(3), 3-8.

This Peer-Reviewed Article is brought to you for free and open access by the Physical Therapy & Human Movement Science at DigitalCommons@SHU. It has been accepted for inclusion in Physical Therapy Faculty Publications by an authorized administrator of DigitalCommons@SHU. For more information, please contact ferribyp@sacredheart.edu, lysobeyb@sacredheart.edu.

Maximizing Clinical Education Options in Cardiopulmonary Physical Therapy

Beverly D. Fein, MS, PT
Program in Physical Therapy
Sacred Heart University

The purpose of this article is to present a series of suggestions for increasing cardiopulmonary content in clinical education experiences. This article offers strategies for maximizing cardiopulmonary clinical education experiences of physical therapy students in order to better prepare them to function in the changing clinical environment. Specific strategies addressed include: 1) enhancing student self-directedness; 2) integrating cardiopulmonary content into management of patients with a variety of diagnoses; and 3) use of resources for student and staff development. A series of guiding questions to facilitate student learning in the area of cardiopulmonary physical therapy is provided. Alternative models for full time and short term clinical education experiences are discussed. Development of clinical instructors with knowledge and skill in cardiopulmonary PT and the ability to facilitate positive cardiopulmonary clinical education experiences for students is imperative in order to prepare effective clinicians who are advocates for the cardiopulmonary needs of patients.

KEY WORDS: Clinical Education, Physical Therapy, Cardiopulmonary

INTRODUCTION

Does clinical education in cardiopulmonary physical therapy meet the needs of our profession? Cardiopulmonary clinical education experiences are traditionally provided in the form of full time rotations specifically aimed at development of competency in physical therapy management of patients with primary cardiovascular and/or pulmonary diagnoses. In many parts of the country, changes in the delivery of health care have caused a reduction of available clinical affiliations in all areas of physical therapy (PT), including cardiopulmonary PT. Restructuring of the clinical environment has often resulted in fewer qualified clinical instructors available to mentor students in cardiopulmonary PT. Shorter lengths of stay in all settings have led to decreased time for students to make clinical decisions, to develop skill in evaluation and treatment procedures, and to develop relationships with patients and team members. Increased pressures on clinicians for productivity have led to decreases in the amount of time available for supervision of students during clinical education experiences. These transitions have caused a degree of imbalance in the supply and demand of cardiopulmonary clinical experience for PT students. In order to prepare students to function optimally in the clinic in this environment of changed expectations, clinical facilities and academic physical therapy programs need to re-evaluate the manner in which students gain critical experience in cardiopulmonary clinical practice.

The changes in clinical practice are affecting all aspects of physical therapy practice and facilitating much dialogue among clinical educators. At a recent APTA sponsored Consensus Conference on Clinical Education in Physical Therapy, educators, clinicians and administrators from both clinical and academic physical therapy programs met to develop a

direction for clinical education in the future. The final results of the consensus conference will be incorporated into the Normative Models for Physical Therapy Education document.

This article will offer a number of suggestions for maximizing cardiopulmonary clinical education experiences of PT students in order to better prepare students to function in the changing clinical environment. These will include such mechanisms for developing student effectiveness as 1) enhancing self-directedness of students; 2) encouraging students to view all patients as cardiopulmonary patients by integration of cardiopulmonary content into management of all patients; and 3) resources for student and staff development. Guiding questions to facilitate student learning will be discussed. Finally, the unique aspects of full time and short term clinical education opportunities in cardiopulmonary physical therapy will be considered.

Historically, too many therapists, have viewed cardiopulmonary PT as a narrow specialty area of professional practice which they "don't do." More recently, both clinicians and educators have become aware that cardiopulmonary PT is an area of patient care that pervades all diagnostic categories. After all, every patient or client has a heart and lungs! Academic institutions are encouraged to view cardiopulmonary course content as transcurricular in nature, affecting management of all patients. (1) Cardiopulmonary course content and structure in academic physical therapy programs varies in both length and scope, leading to potential differences in the ability of affiliating students to apply academic knowledge toward management of patients with cardiopulmonary primary or secondary diagnoses. (2)

In the current changing health care environment, utilization of physical therapists to manage patients with cardiopulmonary conditions is variable. Clinical facilities may be constrained in efforts to provide needed clinical education experiences in cardiopulmonary physical therapy due to institutional restructuring, staffing changes, and the lack of clinicians who are experienced and confident in cardiopulmonary PT. Successful clinical education today, re-

Address correspondence to: Beverly D. Fein, MS, PT, Program in Physical Therapy, Sacred Heart University, Fairfield, CT 06432. E-mail: FeinB@sacredheart.edu

quires that students are increasingly self-directed and independent in their learning, so as to take maximum advantage of the opportunities provided by the clinical institution and the clinical instructor (CI). Clinical instructors need to be well prepared in clinical teaching techniques to facilitate student learning, as well as knowledgeable of resources available for their own and their students' development. Below are described some strategies which may be helpful for maximizing cardiopulmonary student experiences during clinical education.

Enhancing Self-directedness in Clinical Education

Gone are the days when clinics could afford to spoon feed students. Given the changes in health care, successful clinical experiences increasingly rely upon the student assuming responsibility for his/her own learning. In order to foster independence and learning in the clinical environment, a number of factors are critical.

1. **Pre-planning for the clinical experience.** Clinical instructors should review pertinent information about the student and level of academic preparation prior to the student's arrival in order to prepare the most effective learning experiences. This advanced preparation and early questioning of the student will assist the CI in determining the student's current level of knowledge in cardiopulmonary physical therapy. Early, structured "hands-on" experiences during the first few days of the affiliation will help the CI to determine the student's level of skill. Given the variable nature of academic preparation in cardiopulmonary PT, planning in advance by the CI will save time and promote student success during the clinical education experience.
2. **Develop (with the student) objectives for the clinical education experience.**
3. **Identify clear expectations for self-directed learning, including home preparation, use of free time, availability of resources within the institution.** It is not the obligation of the clinical facility to teach information that should have been covered in the classroom. Assist the student in identifying available resources for cardiopulmonary PT in the institution, to facilitate the student's self-directed learning.
4. **Don't feel that you must schedule the student 100% of the time!** One misperception about clinical education is that the student should always be busy working with patients. This is not necessarily true. Student "down time" is appropriate for chart reviews, preparation of notes and self-directed research while the CI is busy at other tasks.
5. **Observation is not a sin!** Many CIs feel that the student should always be kept busy, engaged in patient evaluation and treatment activities. Particularly, early in clinical education experiences, when students have not yet achieved a degree of independence, the CI may have patient care responsibilities to juggle with clinical teaching. Students benefit from structured observations with the CI or another therapist. Use these opportunities for open ended questions of clinical issues. "What equipment does this patient have, what are the purposes of each item, and what are the precautions?" "What do you think will hap-

pen if . . ." Ask students to offer rationales for patients' diagnoses and for treatments observed.

6. **Don't "protect" students from the realities of clinical practice.** Many clinicians are tempted to spare the student from following the "difficult" patient, or the patient who is making limited progress in favor of the interesting or exciting diagnoses. The student then graduates and enters clinical practice to discover that there are a multitude of unpleasant realities to clinical practice, including routine treatments, tedious third party requirements and not-so-nice physicians. Physical therapy students should be exposed to the realities of clinical practice: the good, the bad and the ugly!
7. **Expect self assessment.** Students are provided with copies of the clinical education evaluation tool used by the academic program. Set up regular meetings with the student to provide feedback. Begin by asking the student to assess his or her performance according to the evaluation criteria. Expect student involvement in goal setting for the remainder of the affiliation.
8. **If there are problems or questions, call the school!** Don't wait to be sure that the student is having difficulty. If you have any concerns, the Academic Coordinator of Clinical Education (ACCE) from the student's academic institution is available to assist you in resolving or avoiding problems and in creating successes. The ACCE can also assist you in developing clinical education experiences to facilitate student learning, to facilitate self-directedness and to challenge the strong student!

How can we integrate cardiopulmonary experiences into any clinical education experience?

Recent changes in health care delivery have led to an increasing acuity of patients seen by PTs in all settings from acute care to rehab to outpatient and home care. This magnifies the need for students to be well prepared in recognizing and responding to changes in the cardiopulmonary system with activity and at rest. How can we address clinical education in cardiopulmonary physical therapy in order to prepare clinicians to deal with the array of diagnoses and physiologic responses seen in today's health care environment? I believe we need to continue to offer specialty rotations in the management of patients with cardiopulmonary disorders for interested students. We also need to be creative in limited staffing environments in order to maximize student experiences in this area. The definition of cardiopulmonary physical therapy experiences can be expanded to include other acute care and rehab rotations with a strongly integrated cardiopulmonary component. Students can gain valuable clinical experience in the field of cardiopulmonary physical therapy under the direction of a CI skilled in facilitating the student in recognizing and managing cardiopulmonary implications of patient care in a broad variety of other patient diagnostic categories.

Students don't need patients with a primary cardiovascular or pulmonary disorder or a cardiopulmonary rotation in order to learn effective skills in managing cardiopulmonary conditions. The most common co-morbidities seen in physical therapy practice probably include: angina, history of myocardial infarction, congestive heart failure, chronic obstructive pulmonary disease, diabetes, hypertension,

atelectasis and pneumonia. In the classroom, students may learn about the management of the simple uncomplicated hip fracture, but in the clinic the typical patient with hip fracture may have other co-morbid conditions including those that are cardiopulmonary in nature. Too many students and CIs view this patient as an *orthopedic* case, and therefore never consider the need for physiologic monitoring! If we consider the cardiopulmonary implications of management for every patient, including those on the orthopedics, neurology/neurosurgery, spinal cord and medical-surgical rotations, students will learn to appreciate the cardiopulmonary status of all patients. This involves integration of cardiopulmonary issues into all aspects of patient care.

Developing staff and students

One of the greatest limitations in provision of cardiopulmonary clinical education may be a paucity of practicing physical therapists with confidence and skill in auscultation, vital signs assessment, interpretation of laboratory values and cardiopulmonary clinical decision making. Students often learn cardiopulmonary assessment in the classroom, and then affiliate in a clinical environment in which therapists do not practice those skills. We need to facilitate student learning in these areas, but also provide opportunities for practicing clinicians to enhance their knowledge and skill in application of these assessment tools. A variety of strategies can be utilized by both students and staff in order to build confidence in a range of cardiopulmonary evaluative and therapeutic procedures.

Critical Case Learning Pathway: Described by Simonsen, the Critical Case Learning Pathway can be designed by a department to facilitate development of students and staff. Criteria for specialized knowledge and skills are identified, as are resources for learning. The student is expected to read the pathway and make use of the appropriate resources for self-directed learning in order to prepare for certain aspects of patient care. This may range from recognizing the significance of diagnostic studies and laboratory tests, including cardiac isoenzymes, to implementation of procedures such as use of pulse oximetry, suctioning, or auscultation of breath sounds. (3)

Electronic Media:

The recent explosion in electronic media has proven a boon to self-directed learning for both clinicians and students. Many medical publishers, including Mosby, WB Saunders, and Churchill Livingstone are now selling computer-assisted instruction programs which may provide opportunities for clinical decision-making practice. These range from medical spell checkers to software available in medical diagnostic categories, such as cardiology and neurology, and computer-assisted instruction in interpretation of electrocardiography, all of which may be of interest to the physical therapist. There are also new programs specifically designed for the physical therapy audience. Among these is a new cardiopulmonary physical therapy decision making disk (4) created by Penny Klein of D'Youville College, and distributed through the Cardiopulmonary Section of APTA.

Other Media:

Many companies market audiocassette tapes of heart and lung sounds. There are a number of manufacturers of excellent videotapes of physical examination of the chest, and of

auscultation of heart and lung sounds. These provide valuable adjuncts to clinical department libraries, and serve as a resource for both clinicians and students. Students and clinicians then need to actually carry a stethoscope with them, and practice auscultation on each other and on patients in order to build confidence and skill!

Use of Guiding Questions in Clinical Education

One approach to good clinical education is the effective use of questions. Students learn to consider issues when asked to discuss the impact of those issues on patient care. A series of questions that can be utilized by CIs with any patient population to drive discussion with students is offered here. (These are clearly questions that should be asked anyway, but are not being addressed in many settings!)

1. *What is the patient's primary pathology?*
2. *What are secondary diagnoses which may impact upon the primary diagnosis?*
3. *What are the potential impacts of the primary and secondary diagnoses on the cardiovascular and pulmonary systems?* For example, common causes of stroke are cardiac emboli, atrial fibrillation, hypertension and severe decline in cardiac output. Therefore, shouldn't we monitor these patients for arrhythmias, heart rate (HR) and blood pressure (BP) response during transfers, mat activities or gait? Many of these patients are performing at near maximal intensity when we challenge them with the routine workload of stroke rehab!
4. *Given the patients' problems, what impact will the evaluation/treatment intervention have on the cardiopulmonary and pulmonary systems?* Examples include: Pain may cause increased HR, BP, respiratory rate (RR). The patient may perform a valsalva maneuver during exercise or gait/transfer activities which may cause a drop in BP. The patient may hold the walker/crutches with a "death grip" causing increased BP. An excessive level of activity may cause the patient to decompensate and develop heart failure, indicated by decreased BP, new S3, rales.
5. *Given the patients' diagnoses, what monitoring would be appropriate? How often should you monitor? What signs do you expect to see if the patient is developing problems?*
We commonly ask students, "To which side is the patient most likely to deviate in gait, and how will that affect your guarding and planning?" We need to ask the question: "What are the most likely signs you will have that your patient is not tolerating this activity well, and how will you respond? How should the student handle the patient who is on oxygen? The patient with a history of angina? Why do people develop lightheadedness? How will you determine if the patient's complaint of chest pain is musculoskeletal vs. cardiac. Is the shortness of breath an appropriate response to exercise, or is it excessive?"
6. *What special equipment does this patient have, and how will this equipment impact upon the physical therapy intervention?*
CIs are accustomed to teaching students to work around

intravenous lines, drains and urinary catheters. We need to spend the same amount of time in evaluating the plethora of equipment utilized in the intensive care environment. Often today, patients on mechanical ventilation are found on regular floors in addition to intensive care units (ICUs). PTs need to be minimally competent in recognizing and responding to the various alarms on the equipment.

7. *What is the impact of patients' medications and other therapies on the PT intervention?*

What are the side effects of the patient's medications? What are the possible implications for activity? How should therapy be scheduled in order to maximize effectiveness of other therapies, e.g., respiratory therapy treatments, pain medications? How should therapy be scheduled for the diabetic patient in order to avoid hypoglycemia?

8. *How will this patient's primary and secondary diagnoses affect your goals? How will they affect your treatment plan in terms of frequency, duration and intensity?*

Will the patient benefit from multiple brief treatment sessions, rather than one longer session?

9. *What are the needs of the patient and family in regard to education?*

Does the patient need to be given information about energy conservation, or about the secondary disease and its impact on the new diagnosis? For example, what are the implications for the new above-knee amputee with a history of angina?

10. *Who else should/could be involved in the care of this patient?*

PTs often work with a team of other health professionals. It is the responsibility of the therapist to interact appropriately with other health providers. What information should the student convey to nursing or to the patient's physician? What activities could be appropriately delegated to a physical therapist assistant? What activities should the family be taught to carry out, and how do we assess their competency? (e.g., postural drainage)

Full Time vs. Short Term Cardiopulmonary Experiences

Traditional full time cardiopulmonary experiences need to be creative in response to the external demands of the changing health delivery system and its impact upon physical therapy practice. Alternative mechanisms for provision of cardiopulmonary clinical experiences need to be examined as well. Several suggestions for short term alternative cardiopulmonary experiences are described here. This aspect of cardiopulmonary physical therapy, as a significant part of management of all patients, is an area that will benefit from further development.

Full Time Clinical Experiences. Full time clinical experiences in cardiopulmonary PT are varied and may involve differing arrangements, including management of patients with cardiovascular problems only, patients with primarily pulmonary diagnoses, patients in intensive care rotations, patients with acute diagnoses or chronic cardiopulmonary diagnoses. Some facilities have rotations involving outpatient manage-

ment of patients with cardiovascular or pulmonary diagnoses, or rehabilitation of patients with cardiopulmonary disorders superimposed upon a neurological or orthopedic event. This array of clinical education experiences exists primarily in the acute care and rehab environments, and may vary with geographic location.

In many clinics, clinical experiences in cardiopulmonary physical therapy go unfilled due to lack of interest! Too many students see cardiopulmonary physical therapy only as a narrow specialty area of practice, rather than as an underlying issue that has implications for almost every patient they see. Unfortunately, too many CIs have this same opinion, which they then pass along to their students. In other institutions, there are not enough clinical placement slots available to accommodate the numbers of students who want and need cardiopulmonary clinical experiences. This lack of clinical placements may be due to limited staffing, lack of experienced and available CIs, increased numbers of students and academic programs requesting cardiopulmonary placements, and/or current changes in health care. Thus students interested in exploring cardiopulmonary physical therapy as a full-time clinical educational experience may have limited options. How has this discrepancy come about?

Some of the variability of interest in clinical educational experiences in cardiopulmonary PT may be regional, based upon practice patterns. Also implicated may be inadequate or unexciting didactic preparation of students for cardiopulmonary PT experiences in some academic curricula. Clinical educators need to structure experiences in a variety of ways and in a range of clinical settings in order to build upon students' academic preparation in cardiopulmonary PT. This will benefit the patients we serve through improved preparation of new graduates. In addition, students who have had positive clinical experiences in cardiopulmonary PT will become advocates, both for PT involvement in these aspects of patient care, and for clinical education for future PT students.

Suggestions for addressing the shortage of full time dedicated cardiopulmonary clinical education placements include:

Mixed rotations. The students are assigned to work with two CIs on two different rotations. This can be arranged by splitting the experience in half (e.g., a six week clinical affiliation consists of one 3 week rotation in cardiopulmonary PT, and the other 3 weeks representing a different area of practice.)

Split Placement Model (Student is shared by 2 CIs). This model provides an alternative approach to full time cardiopulmonary experiences which is especially effective in making use of part time skilled clinical instructors. The student can be supervised by two different CIs who job share a cardiopulmonary rotation. This model can also be arranged such that CIs on two different rotations share responsibility for the student (e.g., student follows cardiopulmonary patients with CI #1 in the mornings, and follows a different patient population with the CI #2 in the afternoons. Alternatively, the student can work certain days of the week with CI #1 on cardiopulmonary, and the remainder of the week with CI #2). Many variations of these shared CI responsibilities have been successful. (5) The most important ingredient to success in an affiliation in which 2 CIs share a student, is good communication between the CIs. The student needs to have a

realistic and consistent set of expectations from both CIs. He/she needs to have opportunity for discussion and feedback from each CI. The CIs need to be able to carve out a common time during the week during which they can meet to discuss plans, goals and issues, so as to present a united front. Consistency and good communication are paramount.

Collaborative Clinical Education. In the traditional model of clinical education, one CI supervises one student (1:1). In the collaborative model of clinical education, the CI is responsible for a team of collaborating students. Most common is two students working with one CI, known as 2:1. This model has been implemented with two or more students supervised by a single CI. Collaborative learning has been described in the literature (6,7,8) as a clinical education model in which collaboration between the two students is encouraged. Students typically carry a patient caseload independently, and may share other patients with the collaborative partner. Students are encouraged to discuss patient management, and to provide feedback to each other. The CI carries no patient load during the clinical experience, and is therefore available to develop and monitor learning experiences for the collaborating students. He/she meets regularly with each student individually as well as with the collaborative team.

There are many advantages of the collaborative model. One notable advantage is the ability of the clinical facility to provide a potentially greater number of clinical placements in the practice area. Because students can share patients as well as manage their own caseloads, the opportunity exists for students to share responsibility for management of particularly complex or difficult patients, or unusual diagnoses. This allows for greater exposure of students to specialty areas during clinical education. Students benefit from the peer support encouraged by the collaborative model, and learn to more effectively function in a team. This is excellent preparation for professional practice. After all, physical therapists in clinical practice work in collaboration with other team members. The CI benefits from the collaborative model, as he/she has more time to facilitate student learning, and develop educational experiences. This model develops the CI's skills in communication, supervision and time management. Patient productivity has been enhanced in the 2:1 model of clinical education compared to the traditional 1:1 model. (9)

Short term exposures

Students can learn and become excited about specialty practice as a result of short term clinical experiences. These range from ongoing, part-time, integrated clinical education experiences in cardiopulmonary PT, to distinct, structured events. Often, academic programs schedule these experiences, however, clinical institutions may volunteer to provide group experiences to students in order to enhance preparation for cardiopulmonary PT practice.

Problem Solving Workshops. In this model, small groups of students work with an experienced clinician to review a real patient case situation. The clinician may provide a synopsis of the patient's history. Students are facilitated to identify hypothetical patient problems, develop appropriate evaluative and/or treatment procedures, consider issues of monitoring and re-evaluation, and identify unanswered questions. Students then spend a short period of time with the patient either practicing skills or conducting an interview. This provides a good opportunity to practice auscultation, assess vital signs,

and other clinical tests. Following the patient/therapist time, the students regroup with the clinician to discuss findings and confirm or refute the initial problem lists, goals and plan. This provides students with real life clinical examples for problem solving skill development.

Mock ICU. In this experience, developed at Hartford Hospital, Hartford, CT, small groups of students spend several hours in an experience designed to acculturate them to the ICU environment and to reduce anxiety about the plethora of lines, tubes and monitors. The experience takes place in a simulated intensive care room in the hospital, and involves a mannequin encumbered with every possible monitoring device and invasive line. An empty ICU bed could be utilized in settings without a simulation room. Students are provided with information regarding the purposes of each item of equipment and the various precautions to be considered. The clinician coordinating the mock ICU has the students work through a series of clinical cases involving "patients" with a variety of equipment. Students are asked to focus on the fact that there is a real "person" under all the equipment, who should not be ignored, may be frightened, etc. Students then practice moving the "patient" through a given treatment sequence, including communicating appropriately to the "patient."

Clinically Based Dialogues. Valuable information related to pathologies and to expert clinical decision making can be learned from participation in structured interdisciplinary and departmental events, such as rounds, team meetings and conferences. Attendance at grand rounds in a medical center offers students a picture of clinical management of a specific constellation of clinical events in a given patient. Many institutions have "walking rounds" with attending physicians. Students can gain a perspective on medical management of cardiopulmonary conditions, and on team interactions. Not only do students acquire cognitive knowledge from participation in rounds, meetings and conferences, but they also observe valuable role modeling of appropriate professional dialogue, which promotes development of positive effective behaviors and attitudes.

What do you mean by "just an ambulator?"

Very often during clinical practice and during clinical education, certain patient diagnoses are disparaged as dull, uninteresting and perhaps not requiring the skills of the physical therapist. The patients, for example, who are status post total hip replacement, stroke and rotator cuff repair are all perceived to require a certain degree of clinical decision-making and professional expertise. On the other hand, when faced with the evaluation and treatment of a complex medical patient, for example, the 68 year old woman, with COPD, diabetes and chronic renal failure who has been recently weaned from the ventilator after four weeks due to respiratory failure, the CIs and students in many facilities are likely to respond when asked, "Oh, she's just an ambulator!" We need to demonstrate to CIs and students alike that this "ambulator" needs more than progressive gait training. The deconditioning of the cardiopulmonary system over several weeks is only one of many problems. The patient probably has lost musculoskeletal range and flexibility in the trunk which are now inhibiting maximal chest excursion and contributing to her weakness and fatigue, as well as to her lack of stability in gait! Experienced cardiopulmonary clinicians can help to convince students and their peers that these patients are not "just ambulators."

Conclusion

Clinical education of physical therapists involves not only students, schools and clinical instructors, but all members of our profession. We must produce competent colleagues to work with us in the clinical setting. Studies have shown that students view their CIs as particularly strong role models and mentors.⁽¹⁰⁾ A CI who is capable of stimulating student interest in the management of patients with cardiopulmonary disorders may be capable of overcoming a weak or negative academic experience. It is therefore incumbent upon us to increase the confidence and effectiveness of CIs not only as clinical teachers, but as facilitators of learning in the cardiopulmonary arena. In this way we will continue to graduate effective colleagues, who are advocates for the cardiopulmonary needs of patients.

REFERENCES

1. Curriculum Content in Physical Therapist Professional Education: Post baccalaureate Level: A Resource from the IMPACT Conferences, APTA, 1993.
2. Brooks G. A Survey of Entry-level Cardiopulmonary Physical Therapy. 1996; 7(3):9-14.
3. Simonsen L. Clinical Education in Specialty Care Units. Acute Care Perspectives: The Newsletter of the Acute Care/Hospital Clinical Practice Section. Spring 1995;15.
4. Klein PJ. Computer-Assisted Cardiopulmonary Case Studies. Cardiopulmonary Section APTA.
5. Solomon P, Sanford J. Innovative Models of Student Supervision in a Home Care Setting: A Pilot Project. Journal of Physical Therapy Education. 1993;7:49-52.
6. Ladyshevsky R. Clinical Teaching and the 2:1 Student-to-Clinical Instructor Ratio. Journal of Physical Therapy Education. 1993;7:31-35.
7. Ladyshevsky R, Healey E. The 2:1 Teaching Model in Clinical Education: A Manual for Clinical Instructors. University of Toronto, Department of Rehabilitation Medicine, 1990.
8. DeClute J, Ladyshevsky R. Enhancing Clinical Competence Using a Collaborative Clinical Education Model. Physical Therapy 1993;73:683-697.
9. Zavadek KH, Dolnack CK, Polich S, Van Volkenburg M. 2:1 Collaborative Models. PT Magazine of Physical Therapy. 1995;2:46-54.
10. Jacobson B. Role Modeling in Physical Therapy. Physical Therapy. 1974;54:(3):244-250.

SUPERVISOR PHYSICAL THERAPY

REBUILDING AND RESTORING LIVES...

Cardio-Pulmonary

The Burke Rehabilitation Hospital, noted for its dedicated and highly qualified Physical Therapy Department, is seeking an experienced and team oriented professional to supervise our 30-bed Phase II Cardiac unit. BS or MS in Physical Therapy (NYS licensed or eligible) required. MS in Cardio-Pulmonary Physical Therapy, Exercise Physiology or Applied Physiology preferred. Minimum 2-3 years related experience necessary, previous supervisory experience required.

With our dynamic **career ladder**, and PT staff of 28 (including NDT certified), you will find varied clinical and educational opportunities to enhance your skills and expand your knowledge base while being professionally and financially rewarded.

We offer competitive salaries including longevity recognition, and excellent benefits including: medical/dental, 4 weeks vacation, tuition reimbursement, continuing education funding, on-site child care, on-site tennis and fitness center and staff housing.

If this sounds like the challenging career opportunity you've been looking for, then we'd like to hear from you! For immediate consideration, please submit your resume including a cover letter and salary history/requirements to:

Marlo Ramirez, Human Resources

Equal Opportunity Employer M/F/D/V

**THE BURKE
REHABILITATION HOSPITAL**
785 Mamaroneck Avenue, White Plains, NY 10605