

Clinician's Commentary

The provision of physical therapy during weekends and statutory holidays has been a long-standing topic of debate for managers of hospitals, heads of physical therapy departments, and clinicians. Many hospitals around the world provide physical therapy weekend service (PWS), mostly for (sub)acute respiratory conditions; there is significant variability in the application of and approach to this service. The very interesting paper by Hill and Brooks describes the organization and content of PWS in three tertiary hospitals in Toronto.¹ Physical therapists on duty often face a high workload as a result of low staffing numbers, insufficient or incomplete information on the medical history and current status of patients, and less familiarity with specific physical therapy treatment of this population. Several issues arise in this debate: the evidence-based necessity and effectiveness of continuity of care provided by physical therapists, the costs (and cost savings!) associated with this service, and, last but not least, the efficiency of the organization of the service.

Patients eligible for PWS are often, but not exclusively, suffering from (sub)acute respiratory conditions. A recent statement recommends treatment of respiratory conditions that are amendable with physical therapy, such as impaired airway secretion clearance, atelectasis, increased work of breathing, and weaning failure in critically ill adult patients.² Continuation of this care seems obvious, but formal research evidence on the frequency of treatment, including continuation during weekend days, is scarce, though positive.³ However, the above-mentioned respiratory conditions can alter the patient's clinical status rapidly and often require intensive treatment—more treatments per day, and sometimes night treatments.

Appropriate selection of patients who will benefit from (continuation of) physical therapy requires specialized physical therapists. In previous studies, respiratory physical therapy in mechanically ventilated patients did not, on average, change the duration of mechanical ventilation or ICU stay,^{4,5} or adversely prolonged mechanical ventilation.⁶ However, the major difficulty in these studies was the lack of information on patient characteristics that would have facilitated decisions on the appropriateness of physical therapy in patients ventilated for various reasons of respiratory insufficiency. Thus, as stated by Stiller, “the decision as to whether respiratory physiotherapy should be provided routinely or selectively ... can, at this time, only be made by consultation between physiotherapists and other ICU staff in individual units.”⁷(p.1809) Indeed, appropriate use of

respiratory physical therapy reduces the number of treatment sessions and subsequent costs without compromising care.⁸ In addition to interventions focusing on direct treatment of the respiratory condition, early ambulation and physical activity interventions with major physical therapy contribution have been shown to reduce days of mechanical ventilation, ICU stay, and hospital stay and to improve functional status.^{9–12} Interestingly, most of these interventions were continued for 7 days per week and were not associated with an increase in total direct hospital costs.¹⁰ Continuity of care in other conditions also contributed to transferring patients more quickly to less expensive hospital services or to early hospital discharge.^{10,11,13,14}

Emphasis on early mobility in patients with critical illness requires a “clinical pathway” and a change in the culture of the health care team. It requires that clinicians use their time efficiently, relinquish tradition, and reprioritize direct care activities to promote optimal short- and long-term outcomes.¹⁵ This multidisciplinary team approach also includes input from physical therapists, who should take responsibility for initiating and providing early mobility and physical activity interventions.² Specialization in physical therapy is unquestionably needed to provide adequate care for a large variety of diseases and health problems, certainly in larger tertiary hospitals. Organization of physical therapy departments varies between centralized management and decentralized (matrix- or programme-based) management; both systems have their pros and cons.¹⁶ Hill and Brooks¹ observed in their survey that programme-based (decentralized) management for PWS was associated with more patient visits per hour, more patient screens, and more staff completing unpaid overtime. In addition, physical therapists on duty in the programme-based hospital focused mostly on chest conditions. Physical therapists were working in their area of expertise, and with patients who were known to them from their regular weekday shift. This allowed them to treat more patients per hour, but it should be noted that more staff were working unpaid overtime. Since the programme-based hospital had more beds, additional time was needed to take care of the higher caseload. The physical therapists at this hospital were probably attached to the patients in “their” wards; perhaps they were more likely to take responsibility for additional care needed by these patients. Although formal research is not available to determine the effectiveness of this approach, it seems likely that patients would benefit more from this service model.

In recent years, the organization of physical therapy

services has also been influenced by the development of “clinical pathways” in in-patient health care. Clinical pathways were developed to improve quality, efficiency, and safety of care.^{17,18} Multidisciplinary care in these clinical pathways requires a careful mix of centralized and decentralized organization of caregivers. Physical therapy is often part of the clinical pathway, and physical therapists are responsible for adequate implementation of care in the clinical pathway. This approach is potentially in conflict with centralized management of PWS, in which physical therapists from non-PWS wards may face difficulties in patient populations with whom they have no or limited expertise. Clustering of service areas (ICU and thoracic and cardiovascular surgery, for example) with compatible expertise and rotation constraint may reduce variance in quality of care. This approach also enlarges the pool of available expert staff for PWS and promotes continuity of optimal care in the clinical pathway. Centralized organization of physical therapy departments remains important, however, to share knowledge and expertise in professional competencies in the broader area of physical therapy. Physical therapists with different expertise in physical therapy departments, especially in large, super-specialized tertiary hospitals, should share and transfer their knowledge and expertise to enrich our professional profile, including responsibilities for optimal patient care outside of regular business hours.

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REFERENCES

- Hill K, Brooks D. A description of weekend physical therapy services in three tertiary hospitals in the Greater Toronto Area. *Physiother Can.* 2010;62:00–00.
- Gosselink R, Bott J, Johnson M, Dean E, Nava S, Norrenberg M, et al. Physiotherapy for adult patients with critical illness: recommendations of the European Respiratory Society and European Society of Intensive Care Medicine Task Force on Physiotherapy for Critically Ill Patients. *Intensive Care Med.* 2008;34:1188–99. doi:10.1007/s00134-008-1026-7
- Brusco NK, Paratz J. The effect of additional physiotherapy to hospital inpatients outside of regular business hours: a systematic review. *Physiother Theory Pract.* 2006;22:291–307. doi:10.1080/09593980601023754
- Ntoumenopoulos G, Presneill JJ, McElhoolm M, Cade JF. Chest physiotherapy for the prevention of ventilator-associated pneumonia. *Intensive Care Med.* 2002;28:850–6. doi:10.1007/s00134-002-1342-2
- Patman S, Jenkins S, Stiller K. Physiotherapy does not prevent, or hasten recovery from, ventilator-associated pneumonia in patients with acquired brain injury. *Intensive Care Med.* 2009;35:258–65. doi:10.1007/s00134-008-1278-2
- Templeton M, Palazzo MG. Chest physiotherapy prolongs duration of ventilation in the critically ill ventilated for more than 48 hours. *Intensive Care Med.* 2007;33:1938–45. doi:10.1007/s00134-007-0762-4
- Stiller K. Physiotherapy in intensive care. towards an evidence based practice. *Chest.* 2000;118:1801–13. doi:10.1378/chest.118.6.1801
- Alexander E, Weingarten S, Mohsenifar Z. Clinical strategies to reduce utilization of chest physiotherapy without compromising care. *Chest.* 1996;110:430–2. doi:10.1378/chest.110.2.430
- Berney S, Stockton K, Berlowitz D, Denehy L. Can early extubation and intensive physiotherapy decrease length of stay of acute quadriplegic patients in intensive care? a retrospective case control study. *Physiother Res Int.* 2002;7:14–22. doi:10.1002/pri.237
- Morris PE, Goad A, Thompson C, Taylor K, Harry B, Passmore L, et al. Early intensive care unit mobility therapy in the treatment of acute respiratory failure. *Crit Care Med.* 2008;36:2238–43. doi:10.1097/CCM.0b013e318180b90e
- Schweickert WD, Pohlman MC, Pohlman AS, Nigos C, Pawlik AJ, Esbrook CL, et al. Early physical and occupational therapy in mechanically ventilated, critically ill patients: a randomised controlled trial. *Lancet.* 2009;373:1874–82. doi:10.1016/S0140-6736(09)60658-9
- Burtin C, Clerckx B, Robbeets C, Ferdinande P, Langer D, Troosters T, et al. Early exercise in critically ill patients enhances short-term functional recovery. *Crit Care Med.* 2009;37:2499–505. doi:10.1097/CCM.0b013e3181a38937
- Hughes K, Kuffner L, Dean B. Effect of weekend physical therapy treatment on postoperative length of stay following total hip and total knee arthroplasty. *Physiother Can.* 1993;45:245–9.
- Rapoport J, Judd-Van EM. Impact of physical therapy weekend coverage on length of stay in an acute care community hospital. *Phys Ther.* 1989;69:32–7.
- Thomsen GE, Snow GL, Rodriguez L, Hopkins RO. Patients with respiratory failure increase ambulation after transfer to an intensive care unit where early activity is a priority. *Crit Care Med.* 2008;36:1119–24. doi:10.1097/CCM.0b013e318168f986
- Robinson M, Compton J. Decentralised management structures—the physiotherapy experience at John Hunter Hospital. *Aust J Physiother.* 1996;42:317–20.
- Panella M, Marchisio S, Di SF. Reducing clinical variations with clinical pathways: do pathways work? *Int J Qual Health Care.* 2003;15:509–21. doi:10.1093/intqhc/mzg057
- Vanhaecht K, De WK, Panella M, Sermeus W. Do pathways lead to better organized care processes? *J Eval Clin Pract.* 2009;15:782–8. doi:10.1111/j.1365-2753.2008.01068.x

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