be useful when judging whether to make the treatment available.

Graf and colleagues' study, as published, would be difficult to replicate because there is little detailed information about characterisation of patients' symptoms (did the patients report passive, urge, or both symptoms of faecal incontinence?). Other data not reported include changes in objective criteria such as anal pressures, ultrasound appearance, or sensation, which might give clues about the mechanism of action. How many patients had functional or structural impairment of the internal anal sphincter was not reported, nor how many had faecal incontinence secondary to loose stool. If the treatment's presumed mechanism of action is sphincter occlusion, some categories of faecal incontinence would have little potential for benefit.

So, although Graf and colleagues' study might change the conclusion of an updated Cochrane review on the subject, should it change clinical practice? Maybe, but until we ask patients what they think, we cannot be sure whether a statistically significant result will actually change peoples' lives.

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Traumatic spinal cord injuries

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Traumatic spinal cord injuries are life-changing events. The combination of consequent general physiological impairment, multisystem malfunction, disabilities, a wide range of potential complications, and sensory impairment, together with the non-medical effects, presents challenges to patients, carers, and clinicians.[1] Although recovery of the ability to walk does not usually correlate with neurological recovery or recovery of bladder, bowel, and other autonomic functions, it is often the main concern of patients during the early stages after traumatic spinal cord injury. Patients often request that clinicians prognosticate early.

Prognostic indicators of neurological recovery and ambulation have been extensively studied in the past five decades. In 1969, Frankel and colleagues studied 682 consecutive patients admitted to hospital within 14 days of injury.[2] They were able to predict substantial neurological recovery and ambulation with active physiological conservative management[3] in many patients with complete motor paralysis of lower limbs and sensory sparing. Prediction of these outcomes was even better in patients with minimal lower-limb motor-sparing. These findings accord with those of other studies.[4–6] Neurological examination within 72 h of injury was subsequently shown to be of good prognostic value for neurological recovery and functional ambulation,[6–8] irrespective of the extent of spinal canal stenosis, encroachment, or cord compression,[8–11] and without any surgical, cellular, pharmacological, biological, chemical, immunological, hormonal, or other interventions.[4,9–11]

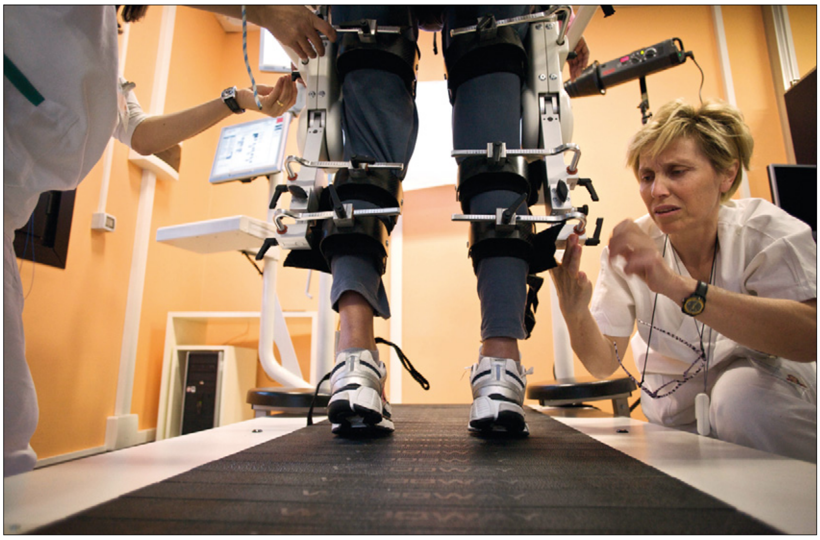
In *The Lancet*, Joost van Middendorp and colleagues[12] develop a validated prediction rule to assess a patient's chances of walking independently after traumatic spinal cord injury, with data from a large, multicentre, longitudinal cohort of nearly 500 patients. They derived an exponential formula based on a statistical regression analysis to accurately predict ambulation at 1 year after injury. The neurological examination was standardised and done according to international standards for neurological classification of spinal cord injury.

van Middendorp and colleagues used the Spinal Cord Independence Measure, a well-validated clinical outcome measure for independent ambulation both indoors and outdoors. Although the prediction rule is mainly for indoor mobility outcomes (the ability to walk <10 m), analyses show that such outcomes are highly correlated with outdoor ambulation (the ability to walk >100 m).

The prediction rule allows prognosis to be made after a simple examination of sensation and power in L3 and S1, factoring in the patient's age, in the first 15 days after injury. Patients who died or were lost to follow-up were excluded from analysis. The researchers do not recommend use of this formula for clinical purposes, but instead provide a graphical representation for such purposes.

van Middendorp and colleagues' results suggest that light-touch sensory testing is of similar prognostic value to pinprick sensory testing, which is generally thought to be the most reliable prognostic indicator of neurological recovery.[6–8,13] Indeed, these two modalities could be of similar prognostic value, in view of the fact that they are both transmitted in the spinothalamic tracts. However, with international standards for neurological classification of spinal cord injury needing refinement, further validation and accurate testing of the prognostic value of these two tests are needed.

Early prediction of ambulation outcome is important to patients. However, several variables exist that affect the achievability and quality of such predictions—eg, the patient's pre-existing health, associated comorbidities, quality of rehabilitation, and neurological progress. van Middendorp and colleagues did not intend to compare outcomes of natural recovery with outcomes after various interventions for traumatic spinal cord injury. In view of the many interventions that need evidence of neutral or, preferably, added value, along with the increasing number of experimental interventions that need to be assessed and the few patients with traumatic spinal cord injury, prognostic indicators (including those used in van Middendorp and colleagues' study) could be used to assess various interventions for



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neurological recovery and ambulation. However, although neurological outcomes can affect functional outcomes, including ambulation, the converse is unlikely. Neurological and functional recovery should, therefore, be thought of as two essential, distinct entities in the assessment of traumatic spinal-cord-injury outcomes.

No evidence exists that neurological recovery after traumatic spinal cord injury is restricted in patients older than 65 years compared with recovery in younger patients. Their pre-existing health and mobility could, however, affect both capability and quality of ambulation. Nonetheless, no details on the neurological recovery (subgroup analyses for age) were presented in van Middendorp and colleagues' study. An interesting aspect of this study is that, even with age as a surrogate variable (for medical comorbidities), accuracy of the prediction model was high (area under the receiver-operating-characteristics curve 0·956, 95% CI 0·936–0·976, p<0·0001).

van Middendorp and colleagues should be congratulated for providing further strong evidence for the emerging view that accurate prediction of an individual's clinical ability to walk independently after traumatic spinal cord injury is possible. Further studies are needed to assess the power of the various prognostic indicators and assess their value when applied at different times after injury. Further studies are also needed to assess outcomes of interventions not only for ambulation, neurological recovery, and functional recovery, but also for autonomic functions such as bladder, bowel, cardiorespiratory, vasomotor, erectile, and reproductive functions.

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Lessons from normal heart and respiratory rates in children

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Of all the dilemmas in acute paediatrics, that of distinguishing serious life-threatening illness in young children from self-limiting, acute viral infections is probably the problem that causes most anxieties for clinicians and parents. It is not possible, nor desirable, to admit and investigate every child with a high temperature, but of equal importance is prevention of progression of serious illness or infection. The restricted ability of young children to report how they feel, especially when distressed, means that this assessment is largely based on clinical examination. The front-line staff who make judgments about whether a child should be admitted or not are usually not paediatricians, adding further difficulty. Thus, although more than 25% of all patients seen in emergency departments in the UK are children, huge variation exists between National Health Service Trusts (4–24%) in the proportion of children admitted from these departments.[1] To help address this problem, various guidelines, checklists, and algorithms have been developed, prompting the clinician to assess the presence of a constellation of symptoms and signs that can show whether the child is likely to be at high risk.[2,3]

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Measurements of heart rate and respiratory rate are usually fundamental to the assessment of physiological status, and have the advantage of being easy to measure and generally raised during acute illnesses.[4] Rapid breathing is recognised worldwide as an important red flag for serious infection in children,[5] and is integral to the diagnosis of acute lower respiratory infection in resource-poor settings[6]—its absence making such a diagnosis very unlikely.[5]

However, to add to the challenges, infancy and childhood are periods of enormous physiological and developmental changes, particularly in the early months and years. Although researchers have attempted to establish what constitutes normal heart and respiratory rates at different ages, these investigations have been in various populations, settings, and geographical locations, with use of different measurement techniques, during at least the past six decades. The result is that the