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Fifty years on fundamentals in spinal cord injury care are still important

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The fundamentals of care in spinal cord injury were laid down many years ago. Prevention → therapy → follow up is basic in medicine. In spinal cord injury, admission to a comprehensive unit then application of simple, repetitive disciplines for patient and staff, and education are the fundamentals to be emphasised. The great pioneers, Munro, Guttmann and Botterell achieved advances long before sophisticated technology moved to a stage when now it could swamp the fundamentals of care. Such fundamentals include admission to truly comprehensive units catering for acute care but, more importantly, lifetime care with acceptance of the fundamental medical axis of prevention, therapy and follow up. The details of fundamental care include secondary and tertiary prevention techniques in hospital and community, and an acceptance by staff as well as spinal men and women of their simplicity, their repetitiveness, the need for disciplined action and the requirement for education at all levels. In the future, primary prevention must be given more emphasis as cure is many decades away even with the volume of basic research now being undertaken.

Key words: spinal cord injury; fundamental management; prevention; spinal units.

In medicine generally there is a fundamental axis of prevention → therapy → follow up long established in modern categorical units. Historically therapy has been dominant. Munro, Guttman and Botterell,[1,2,3] in the fifth decade laid down fundamentals of care that are now in great danger of being swamped by scientific technical advances. It is fitting that, as *Paraplegia* enters its thirtieth year in this final decade of the twentieth century, such fundamentals be re-examined and the challenge restated.[4] Louis Pasteur said 'When meditating over a disease I never think of finding a remedy but instead a means of preventing it'.[5] This is still fundamental. Spectacular technology has assisted greatly in diagnosis, pathology, safer surgical techniques, and physical rehabilitation. There is little or no evidence[6,7] that it has helped neurological recovery and yet we give it undeserved praise. Added to such technology is the improved education of allied professionals—particularly nurses—who fail at times to see their part in the total spectrum of care. Far better to perform 'menial' tasks well with devotion than high powered ones, inadequately.

Ludwig Guttmann's[2] major contribution has been and is the comprehensive unit and the need for early admission.[8] Yet so many centres with other units such as cardiology, neprhology, oncology fail to have an independent spinal unit, with mediocre results.

I have long since said that nurses have played and must play a dominant role in both acute and lifetime services.[9] The former lasts only 3—6 months, the latter many years. Nurses need this challenge as they and other professionals improve their education; many health professionals are attempting to be medically dominant and do not emphasise these fundamentals. Fundamentals within the axis stated are: (1) simple and repetitive (as are all life preservative activities after resuscitation); (2) a patient responsibility (with discipline); and (3) educative: posture change, skin care, maintaining homo erectus, preventing joint contractures, maintenance of muscle power, prevention of urinary infection and dysfunction[10] as well as bowel dysfunction (so often ignored), adequate nutrition, and accepting

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the social and psychological challenge. Dr Donald Munro[1] made the following statement 'House officers and nurses cannot be made to believe that failure to move the patient on schedule, failure to change a wet bed within 15 minutes of its having become wet and failure to maintain an adequate level of serum protein cause pressure and bed sores and prevent bed sores from healing until the patient has proved it to their satisfaction by dying. Then, having learned their lesson by bitter experience, these trained attendants are transferred to another ward or leave the hospital, and the education process has to be repeated with another untrained group. Constant attention to these apparently trivial details is consequently imperative on the part of the visiting staff if it has any desire to lower the mortality and shorten the hospital stay of these patients'. This statement is still true today in some geographic areas and will become true more widely if technology is overemphasised.

These are the fundamentals our pioneers gave us; patients who ignore them suffer, staff who ignore them are legally negligent.[11] The twenty-fifth anniversary volume of *Paraplegia* (1987) is a 'reading must' for patients and staff. The miracle of spinal cord injury treatment is related to quality of life—the ultimate miracle will come by primary prevention and years of research. These fundamentals must be made a challenge to spinal man and should include sport, recreation, vocational activities and social contact.

The great advances of the fifth decade were made because of discipline[2] administered to patients and experienced by staff. Chahal's[12] success in India and Nakamura's in Japan came because of this factor.[13] Self discipline by the spinal individual is paramount yet many wish to ignore it using rights to denegrate such use. Such individuals ignore the rights of the biological group and expect more than ultimately the group will have to offer, as Beer's thesis on 'Who Gets Pressure Sores' shows.[14] Again here is opportunity for the really professional nurse echoing Emerson who said 'The years teach much the days have never known'. Those unfortunate folk (increasing in number) who have never held a job constitute a major challenge to health professionals. Continued discipline is needed by staff and spinal persons to maintain urinary and bowel function with little or no infection.

Imparted knowledge[2,9] is the final fundamental. Paramountly education of each patient starts on admission both through individual discussion and collective classes—a challenge to nurses and therapists. The unit director has an overriding challenge to educate,[15] and the first principle is of one patient to one physician, who carries the final responsibility so well described by Young.[16] Such a physician must be expert in at least one of the specialty groups. Training of medical postgraduates in spinal paralysis care is not done well in most centers; all fields of medicine will be or are involved in peer review as we approach 2000, which could correct this anomoly.

Fragmented care of spinal cord injuries, as practiced widely still, is to be condemned and should now be legally negligent. Patients must have a focus both in having a comprehensive unit and a physician or surgeon dominant in their individual care. The secondary pathology of complications is similar for trauma and non trauma (so often not seen in comprehensive units) and must be a focus of graduate study.

Learned medical societies must be involved in training and must encourage the fundament axis of prevention→therapy→follow up.[17] Only then can a balance be struck to benefit the individual as he or she presents. Without the application of fundamentals throughout life why be aggressive in the acute stage?

Application of fundamentals, not technology, has achieved much for disabilities: Guttmann as described by Jackson[18] in areas of sport and recreation, Nakamura as described by Ikata[13] in Japan, Chahal[12] in the Services situation in India. What have we in Australia achieved? Firstly it took 15 years to achieve comprehensiveness. Secondly in 1962, 40 special beds were built for a community of 500,000; by 1969 they were totally occupied by spinal paralysed patients. Thirdly by 1989, with a 1.3 million population, only 35 beds were regularly

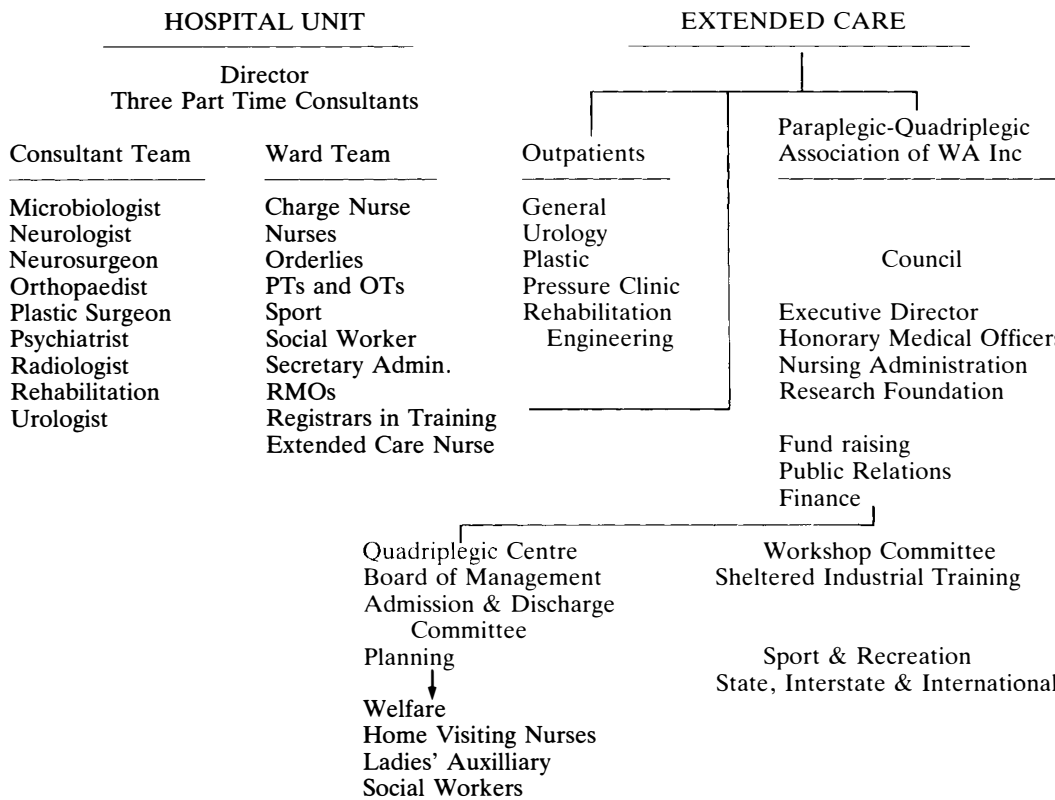

Figure 1 Comprehensive unit for spinal paralysis, Western Australian model. In Western Australia international sport coordination occurs via an Australian Federation.

used for acute care. Fourthly by 1991, with 1.5 million, only 30 beds were used regularly including all major complications. Many authors claimed surgery alone achieved this—quite incorrect. There are many factors—urinary tract infection down to 10%; major community programmes;[19] and a specialised quadriplegic centre[20] occupied by less than 10% needing specialised lifetime care. Members of the Western Australian spinal community know exactly where services are available and where liaison with general practitioners occurs, as with other categorical units (Fig 1).

Application of such fundamentals and particularly primary prevention (where realistically a 25% reduction is possible) will continue a good quality of life into the next century and give some (not too much) security to those afflicted as well as leave services available for the future.[21] Sophisticated technology did not make these advances and must be used sparingly and with knowledge tempered by application of those fundamentals which will be needed indefinitely. As the years pass they will give that desirable quality of life which such people should expect.[9]

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