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## Head injury: looking beyond the patient.

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### CITATION

Hickey, Anne; O'Boyle, Ciaran; McGee, Hannah (1991): Head injury: looking beyond the patient.. Royal College of Surgeons in Ireland. Journal contribution. <https://hdl.handle.net/10779/rcsi.10771817.v1>

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## Head injury: looking beyond the patient

Head injury has been documented as the leading cause of death and disability for individuals under 35 years.<sup>1</sup> Road traffic accidents are the major cause in the under 65 age group, and account for more than 50% of all fatal and severe head injuries.<sup>2</sup> Domestic accidents such as falling down stairs are also significant causes of traumatic brain injuries, particularly among children and older people. Assaults account for up to 20% of head injuries in adults, and approximately 4% in children. Injuries in the latter are frequently associated with child abuse. Occupational and recreational accidents are less common causes of head injury, accounting for as little as 8% and 7%, respectively, of all cases hospitalised with serious head injuries.

The incidence of head injury is unlikely to decrease in the foreseeable future as the volume of traffic on our roads continues to increase. In addition, the number of people who survive severe head injuries is growing because of increasingly sophisticated medical technology, which saves the lives of patients who would formerly have died of their injuries. It is currently estimated that the annual incidence of traumatic head injury is approximately 10.5 cases per 1000 population in the western world. However, since only about 20% are actually admitted to hospital, the annual incidence of those hospitalised for traumatic brain injury is approximately 2.2 per 1000 population. In the UK, fewer than 5% of patients are transferred to specialist neurosurgical units for investigation and treatment.<sup>3</sup> Of those who sustain traumatic brain injuries each year, approximately 20% die (a sizeable proportion of whom die before admission to hospital); a further 10-20% survive with severe impairments that prevent independent living and about 40% suffer continuing sequelae that interfere with daily living skills.<sup>7</sup>

Head injuries are typically defined as being mild, moderate, or severe, the extent and duration of impairment of consciousness being of primary importance in assessing severity. Length of post-traumatic amnesia (PTA) is commonly used as the yardstick for measuring duration of impairment of consciousness, and the classification of head injury is as follows:<sup>4</sup>

PTA less than five minutes – very mild

Five to 60 minutes – mild

One to 24 hours - moderate

One to seven days - severe

One to four weeks - very severe

More than four weeks - extremely severe

Deficits after severe head injury occur almost without exception and can be divided into physical and psychosocial dysfunctions. Physical dysfunction includes, for example, spasticity of a limb or limbs, ataxia, sensory impairment, and muscular weakness or paralysis. Speech disorders are common, as are

dysfunctions of the senses such as visual disorders, hearing problems and disruption of the ability to smell and taste. Post-traumatic epilepsy occurs in approximately 5% of all cases.<sup>5</sup>

Psychosocial dysfunction after severe head injury includes changes in personality, behaviour, and cognitive functioning. Personality change may involve the patient becoming predominantly apathetic, depressed, or irritable. Changes in behaviour may involve the person becoming disruptive, loud, socially and/or sexually disinhibited, and sometimes aggressive. Cognitive impairment is common, with memory, attention, concentration, and problem solving abilities often being significantly impaired post trauma.

Follow up studies of patients after severe head injuries have consistently shown that patients will often deny, or 'lightly dismiss', any problems or disabilities, and spontaneous complaints from patients are relatively rare.<sup>6</sup> However, relatives will often report marked changes in the patient's temperament that are not always obvious to professionals dealing with the patient. Difficulties with intellect, memory, speech, concentration, and the patient's overall level of self-confidence are commonly reported by relatives, while patients very often do not seem to be aware of, or at least are not concerned with, these difficulties.<sup>6</sup>

The importance of informal caregiving in maintaining individuals in a community environment is receiving increasing attention. Since the late 1970's there has been an ever increasing literature on the problems faced by people caring for patients with chronic illnesses such as coronary heart disease and cancer of the larynx.<sup>7,8</sup> Much of the literature on caregiving has focussed on carers of the elderly<sup>9,10</sup> and, in particular on carers of people with Alzheimer's Disease.<sup>11,12,13</sup> The social and psychiatric aftermath of caring for relatives with severe head injury has been reported.<sup>6,14,15</sup> A consistent finding has been that relatives do not report feeling distressed or burdened by physical deficits with cognitive deficits in the patient. Rather, they are much more concerned, with cognitive deficits such as impaired memory and concentration that the patient may exhibit. The major cause of concern and distress to relatives, however, are changes in the patient's personality, which carers describe as overshadowing all other changes.<sup>6</sup>

The long term impact of head injury on patient quality of life has been reported, with impairment evident in the areas of psychosocial functioning, social functioning, leisure activities, and to a lesser extent, physical functioning.<sup>16</sup> However, the implications for the quality of life of the carers of people with severe head injuries have, as yet, received scant attention.<sup>17</sup> There is evidence that the role of caring in itself carries a morbidity risk for the carer.<sup>13</sup> Carers play a crucial role in the rehabilitation of those with head injuries, both on a practical and an emotional level. Practical support includes, for example, arranging for and transporting the patient to therapy sessions, while emotional support may involve the carer adapting to and supporting the patient through the aftermath of

head injury. Given their central role, it is extremely important that the issues faced by carers in this context be examined in much greater depth. Such information should serve both to enhance the quantity and the quality of support provided to patients and carers, and to optimise the benefits derived from any support provided.

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