

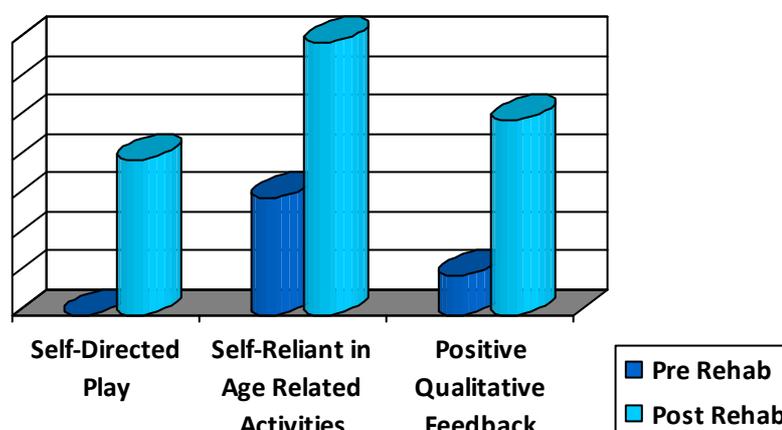
## Outcome Data on Child Traumatic Brain Injury

### Introduction:

For 13 years |reach| has been the national leader in providing rehabilitation for Severe Traumatic Brain Injured (STBI) adults. Several years ago, encouraged by insurers, we expanded our services to include STBI children, for whom there was very limited provision in the UK.

The outcome of a survey we commissioned highlighted that if a child has a severe traumatic brain injury and receives limited rehabilitation and follow-up, there is a very high likelihood of the child not finishing education, not having the ability to source and maintain paid employment and becoming another incapacity benefit statistic.

### Review of 10 Child Cases



### Surveying our research:

The outcome of our research over a 6 month period revealed that:

- Brain development starts before birth and continues to at least 18 years.
- Any physical insult may cause brain damage - making the very lengthy process of cognitive and social training both more difficult and less efficient.
- The younger the child at injury, the greater the effect on future skills development and long-term behaviour.
- Low age and severe damage combine so that a young child suffers more severe long term effects on behaviour, across the board, than a mature adult who has suffered the same severe brain injury.
- Recently-acquired skills are more disrupted by STBI than well-established ones, having had little chance to become habitual through repeated practice.
- Those skills not yet acquired are harder to learn (a damaged brain is less efficient).
- Child development occurs at a series of key stages. Each stage (nursery, then primary and secondary school) means a new set of skills to be mastered. Adolescence brings physical, physiological, psychological and social changes which interact with educational transitions and challenges.

Therefore: Childhood is a constant adaptation to new demands.

## Research Conclusions:

As with adults, most STBI in children are caused by motor vehicle accidents. Without effective rehabilitation most STBI children require great input from statutory services and a high level of long-term care. They are also unable to achieve remunerative employment during their working lives.

- A conservative estimate suggests there are at least 1,000 STBI children annually (proportionately 4 times the number of adults).
- STBI does not affect life expectancy: a 10-year-old today can expect to live to at least 90 (life expectancy continues to rise by at least two years per decade).
- STBI accelerates the ageing process, so that a 65-year-old who has suffered a STBI is “older” than his uninjured counterpart, thus increasing care costs.
- Hence, a 10-year-old child could suffer 52 years' loss of earnings (18-70 years) and need 80 years of care (until 90).
- The financial implications for health, social and educational services, and also Incapacity Benefit (DWP) are considerable.
- Statutory services have a responsibility to assess, but the services they then provide are limited by resources and demographic discrepancies in service provision.
- The UK has several residential facilities for child STBI rehabilitation, but none meets the range of needs highlighted by the research findings.

## The Optimal Rehabilitation Route:

- Rehabilitation programmes for STBI children should be very precisely geared to each stage of development using standardised measures to chart progress.
- Early coordinated intervention is the most beneficial approach
- Ideally, there should not be a single period of rehabilitation but more than one, depending on the age of the child, at each developmental stage, following an initial period of rehabilitation as soon after the accident as possible.
- STBI children need the provision of specialist skills (cognitive, social, functional and emotional) in the home, at school and in the leisure environment.
- Rehabilitation programmes need to work with teachers, special educational needs co-ordinators, the family and the statutory therapists, while also establishing links with the child's peer group and leisure facilities. This provides the all important link between school, home and leisure.

## Child STBI Rehabilitation Project – Does it Work?

A review of results for the last 10 reach clients, aged 3 to 9, yields the following:

- An average of 4 to 5 hours of activity per day was self-directed (compared to none pre-rehabilitation).
- Post-rehabilitation, all the children were significantly more self-reliant in such age-related activities as play, homework and school tasks.
- Qualitative feedback from schools was very positive in all cases.

### Benefits for STBI Child and Insurer

With rehabilitation the child benefits from better access to educational services, a greater likelihood of future employment and a more independent lifestyle.

For insurers, the above gains impact favourably on the eventual size of the award so, the initial investment in rehabilitation is amply covered. In the case of children rehabilitation costs can be offset within 2 years; the final cost of repeated rehabilitation is greater, but so is the potential saving on the final award (often postponed to the age of 16-18), which increasingly exceeds 1 million pounds and will inevitably increase as longevity continues to rise. Today's 10 year old STBI victim is likely to live to 90.

### Cost of rehabilitation v Cost of Award:

Rehabilitation involves a major effort to restore the child to as near to the pre-accident situation as possible and to prepare him for a competent future, stretching out many years ahead. As set out above, damage to key areas of cognition and social functioning is inevitably widespread. Rehabilitation will need to be both extensive and intensive. It is also demanding and skilled. It cannot be denied that it requires a considerable financial investment by the purchaser. But effective rehabilitation can sharply reduce the final size of the award by an amount much greater than its cost. Rehabilitation is both beneficial to the child victim and his family and cost-effective for the insurer. Without effective rehabilitation most STBI children do not work in more than a voluntary capacity for the whole of their working lives (thus adding costs to the government through loss of taxation on earnings and a long term claim for incapacity benefit).

### Conclusions:

Trauma need not be the last word. For STBI children and their families, life can be considerably improved by timely, skilled, intensive and appropriate intervention.

Rehabilitation for STBI children is a financially prudent investment for insurers.

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