



Sealladh Project

Year 1 Evaluation: 2007 - 2008

**A Community Based Approach to
Rehabilitation of Combat Veterans with Sight
Loss Sustained Due to Brain Injury**



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A Community Based Approach to Rehabilitation of
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1.0 Introduction

Sealladh (pronounced Shallach) is Scottish Gaelic for 'sight'. Visibility's Sealladh project offers an innovative, community based service to ex service men and woman who have neurological sight difficulties caused by brain injury within Glasgow and the West of Scotland.

Sealladh uses pioneering Neuro Vision Technology (NVT) developed and designed in Australia to assess visual abilities using a non-invasive training package. Training is delivered within the client's own environment, hospital or rehabilitation centre and focuses on outdoor mobility, communication and daily living activities.

The overarching aim of Sealladh is to teach and encourage people with neurological visual impairment to maximise use of their remaining vision and to become as independent as possible. Visibility is funded by the Scottish National Institute for the War Blinded to develop and deliver the project working in conjunction with West Dunbartonshire Council.

2.0 History

The idea for Sealladh came from a television programme which featured a young man returning from Iraq. The young man in question had suffered a blast injury and as well as many other difficulties, had sight problems which no-one seemed to be helping him cope with. Visibility began to do some background research about what was available for people in this situation in other parts of the world. We already knew about NVT from our colleagues in Fife and we got in touch with Neuro Vision Technology, Adelaide who in turn suggested we speak with Gregory L. Goodrich, Research Psychologist and Coordinator, Optometric Research Fellowship Program, VA Palo Alto, Health Care System, California. Visibility and West Dunbartonshire Council have a well established working relationship and anecdotal evidence suggested that there were a number of people in the area

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who had sight loss, had been in the forces and had experienced a brain injury. West Dunbartonshire is unique in that they employ a psychologist who is based within social work with a specific remit for brain injury. They also have a very active and enthusiastic acquired brain injury strategy group who were keen to develop the idea. Following much discussion between Visibility and West Dunbartonshire Council, the idea became a project proposal and we secured funding from the Scottish National Institute for the War Blinded to develop and deliver a two year project.

3.0 Recruitment and Training

Sealladh went live in October 2008. Laura Campbell, a qualified rehabilitation officer with extensive experience was recruited and along with David Logan, the project Co-ordinator, participated in a three week intensive training programme at Fife Society for the Blind in November. Alison Hays from NVT Australia conducted the training which included clinical aspects of acquired brain injury, the NVT technology used, static scanning and rehabilitation skills for people with acquired brain injury including working with patients.

4.0 Raising Awareness of the Project

The key aim of Sealladh initially was to target the various organisations that may know or support someone that could potentially benefit from the project. These organisations included those which worked in the following areas:

- Military
- Acquired Brain Injury
- Sensory Impairment Teams
- Local authorities
- Supporting People
- Hospitals

Detailed literature was sent out to all organisations with the option of a formal presentation or informal talk to staff, service users and family members. Various presentations were conducted throughout

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Glasgow and the west of Scotland. Larger presentations were delivered as follows:

Orthoptists: In May a presentation was delivered to fifty orthoptists from all over Scotland at the Royal Alexandria Hospital. This was well received by the participants and one referral has been received.

Erskine Hospital: A presentation was given to various managers within Erskine hospital. Seven people attended this meeting and one referral has come from the West Dunbartonshire Acquired Brain Injury team.

SSAFA: Another presentation was conducted to the Argyle and Bute Soldier Sailor Air Force and Army (SSAFA) organisation. One referral has been received as a result of the awareness raising session.

The Chest, Heart and Stroke Organisation: Sealladh was invited to present at their annual event which was attended by a diverse mixture of health care professionals. There has been further interest from this event with the possibility of a referral.

5.0 Referrals

Initially we decided to locate this project within the area of West Dunbartonshire for a number of reasons. It had been suggested that there is a higher than average level of veterans resident in this area because of the military presence at Faslane and Coulport. As stated we also had existing links into the Acquired Brain Injury Strategy Group operating within the area and this link helped us identify people to work with. However, we realised that we had capacity to extend the service into other areas. We talked with SNIWB and agreed that where West Dunbartonshire would remain the priority area, we would deliver the service into other geographical areas in the west of Scotland.

5.1 Demographics

To date, Sealladh has received eleven referrals from 6 local authority areas.

Local Authority Area	Numbers
Argyle & Bute	2
Glasgow	3
Inverclyde	1
South Ayrshire	1
South Lanarkshire	1
West Dunbartonshire	2

Out of eleven referrals ten service users have received support and a home visit has been arranged for the eleventh referral to receive an initial assessment. The referrals have been predominately male - ten male referrals and one female referral at present – and the age of the referrals have ranged from twenty eight to eighty six.

Out of the ten referrals, two people are registered blind, one is registered partially sighted and one service user has been supported to attend a clinical eye examination and is now in the process to be registered partially sighted or blind. This process would not have happened without the prompting and support of Sealladh. Registration not only recognises the difficulties and severity of sight loss but provides a route to local services and benefits.

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The three service users that are registered blind and partially sighted have been referred to the Scottish National Institute for the War Blinded for the grant application.

Referrals to Sealladh for 2007-08

Referrals	11
Received a Service	10
Awaiting Assessment	1
Males	10
Females	1
Registered Blind	2
Registered Partially Sighted	1
Awaiting Assessment for Registration	1
SNIWB Grants Applied For	3

5.2 Visual Conditions

Diagram1 illustrates that only two out of ten service users accessing Sealladh have a single sight difficulty and the remaining eight have a variety of complex sight difficulties.

Diagram 1

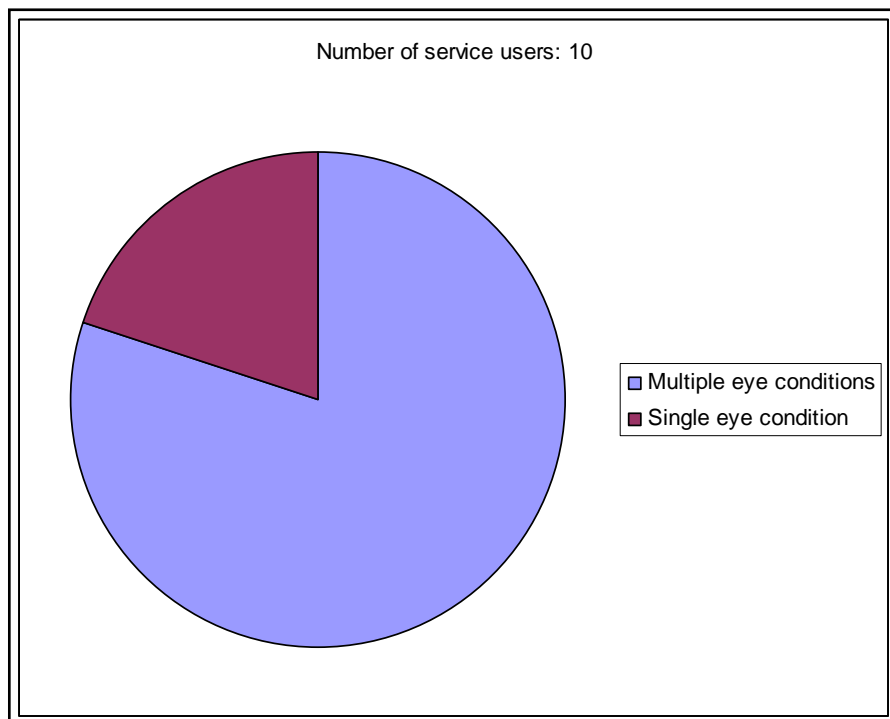
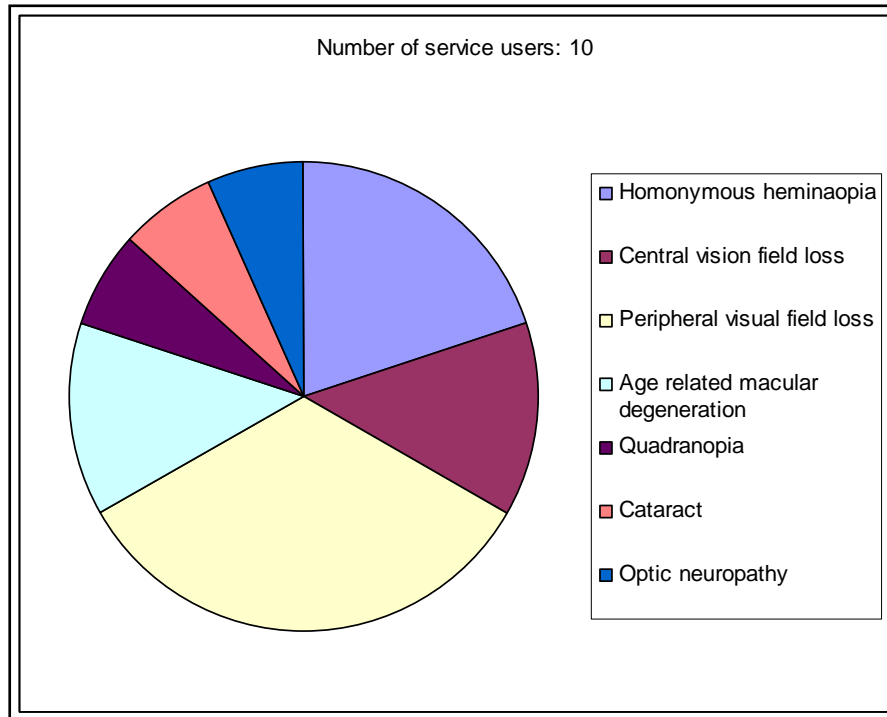


Diagram 2 illustrates the sight difficulties experienced by Sealladh service users.

Diagram 2



5.3 Acquired Brain Injury (ABI)

Sealladh supports ex-service men and women that have acquired a brain injury. Brain injury is often spilt into two categories - traumatic brain injury (TBI) and acquired brain injury (ABI). Traditionally, services aimed at supporting people with brain injury have also been split into these two categories.

TBI services support people who have been involved in a traumatic accident such as car crash, fall, blow to the head, improvised explosive devices causing blast injuries etc.

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ABI organisations predominately support people who have had a brain tumour, stroke, haemorrhaging, poisoning etc.

Sealladh supports both TBI and ABI which makes it fairly unique. Out of the ten people the project has supported and made contact with, five people have gained sight difficulties as a result of traumatic brain injury and four have been because of stroke (CVA), and one as a result of brain tumour. Each service user has presented with various visual impairments and a diverse range of difficulties. Please refer to diagram 2.

6. Sealladh Process

Sealladh thrives on its ability to offer a person centred approach to each service user by providing a unique and individually tailored rehabilitation training programme to suit their specific needs. The process is primarily to identify the impact of sight loss on the person and what rehabilitation needs the person may have. The process is as follows:

- Carry out a functional visual assessment
- Clinical visual assessment (optional)
- NVT assessment
- NVT training
- Rehabilitation tasks
- Outdoor mobility training

6.1 Functional Visual Assessment

Using a range of optometric tools, scanning, tracking, light sensitivity, pupil reaction, understanding of environment, visual acuity and visual fields are assessed. This information is then explained to the service user and given to the Optometrist if a clinical visual assessment is required.

6.2. Clinical Visual Assessment

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This assessment is carried by a qualified optometrist and looks at the health of the eye and diagnoses any health and visual problems which are referred on to Ophthalmology.

6.3 NVT Assessment

By using NVT technology the information gained in the functional visual assessment is further investigated. NVT technology is the use of an electronic system of coloured lights which are linked to a computerised software programme. The information gathered from the service user is programmed into the computer and an individualised programme is then devised. This programme assesses visual field, the person's ability to scan to multiply visual stimuli, visual memory and speed of interpretation and communication.

6.4 NVT Training

The NVT technology is then used to train the service user in compensatory static scanning technique. Pen and paper tasks are also used to heighten visual skills and be aware of processes.

6.5 Rehabilitation Training

Rehabilitation training will cover any practical difficulties the service user is experiencing as a result of their sight loss. Various aids and adaptations can be used to heighten independence.

6.6 Indoor and Outdoor Mobility

This is a major component of the training as many people experience difficulties with mobility as a result of their visual field loss which impacts on the confidence and independence. Common difficulties experience would include:

- Light sensitivity
- Bumping into people or objects
- Veering to the side of good vision
- Difficulty with under foot hazards and clues

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The training initially starts indoors using a structured and safe environment allowing the service user to practice their scanning technique and build confidence. This then progresses to outdoor training in a variety of familiar and unfamiliar environments.

6.7 Examples of Service

This process is adaptable and often specific areas of the project may not be required whilst other areas may require intensive training. The project is flexible enough to respond to the individual needs.

- One service user did not require NVT training; however they received support with their eye examination and were assisted to make an application for benefits to support with the financial burden of their new glasses.
- One service user has accessed training from Sealladh over a period of 6 months. Six months of intensive rehabilitation training was essential as the service user has short and long term memory difficulties making learning challenging. Each part of the process was utilised to heighten visual and environmental awareness. An intensive programme was required to empower independence and enable the visual techniques and compensatory strategies to be mentally stored.
- One service user required Sealladh to heighten their confidence when in a busy outdoor environment. Before accessing the training the service user was unable to shop in supermarkets as the noise and visual confusion would immediately heighten their anxieties causing them immediate stress and increased frustration. Being unable to shop at a supermarket can be costly and also time consuming if you have to purchase produce from other various commercial outlets. After three months of intensive rehabilitation training (three times a week) the service user is now able to go to his local supermarket independently to buy his weekly shopping and he can also access the underground railway independently.

7. Conclusion

Sealladh's strength is its ability to mould itself around the needs and requirements of its diverse service user group. Each service user's needs, abilities and goals are assessed and an innovative training package is then tailored to their specific needs with the aim of increasing visual awareness, skills and confidence.

Because of the nature of the condition, the work is intensive and the people involved in the project show great determination and commitment. By working with this group of people, Visibility has also learned from them, increasing in knowledge and understanding and shaping the project in response their experiences.

The following case studies illustrate the service user's success and progress whilst enabling them to voice their opinion of the project.

Case study 1

Age: 86

Visual diagnosis: Macular Degeneration (central visual field loss)
Peripheral Visual field loss (outer visual field loss)

Acquired brain Injury: Brain Tumour

Date of Episode: 1995

Mr X was referred to Sealladh from the New View project within Visibility. Mr X was experiencing extreme difficulties post brain surgery with processing any information, carrying out household tasks, communication and mobility. Mr X has experienced right brain damage which affects the left hand side of his body and his holistic functioning which he has extreme difficulty with.

Holistic Functioning is when someone encounters difficulties when compiling bits of information to make an entire picture; judging positions of objects; understanding and remembering things we do and see, for example the process of making cup of tea.

Mr X has been receiving the service for four months. At the initial stages Mr X was unable to name primary colours or shapes and identify the moving lights on the light box. Within seven NVT sessions Mr X was aware of the colours and was able to identify and systemically scan the pen paper tasks. Mr X has been experiencing difficulties with the patterned exercise, however this has been broken down into table top exercises using connect pieces to support Mr X to remember what a pattern is and how to visually scan which has been successful.

When Mr X was asked to comment on the project he said 'Sealladh has been really beneficial as now I am allowed to do things'.

Case Study 2

Age: 28

Visual diagnosis: Left **homonymous hemianopia** (left visual field loss in both eyes)

Brain Injury: Traumatic Brain injury

Mr B acquired his brain injury four years ago after being involved in a road traffic accident. He experiences great difficulty with short term memory and has lower left leg mobility difficulties. Although Mr B is aware of his visual difficulties and was compensating for the visual loss, he was not compensating enough, which resulted in him missing vital information especially when he was outside. Mr B has a personal assistant that supports him with mobility and day to day tasks and uses a walking stick and support when in busy crowded areas.

After six months intensive rehabilitation training, Mr B is now able and confident to walk independently without the aid of his walking stick in familiar environments and uncluttered environments. Mr B also displays confidence when negotiating his way in very busy dynamic mobility routes e.g. a train station. He does not have any hesitation when out and about and frequently walks independently in his local area and also hopes to be able to use his bicycle again.