

# Thinking & learning

## INFORMATION FOR CANCER SURVIVORS AND THEIR FAMILIES

The Late Effects Assessment Programme (LEAP) provides regular assessment and monitoring for all survivors of childhood cancer throughout New Zealand. At LEAP clinic the child/young person is seen by a Haematologist or Oncologist, a Nurse Specialist and a Clinical Psychologist. Survivors usually have a parent or family member with them. As part of this assessment, the Clinical Psychologist will ask about a survivor's academic progress and cognitive functioning and, if there are any concerns, a further assessment may occur. This is called a Neuropsychological assessment.

Most children and young people who are treated for cancer now survive. Depending on the treatment or type of cancer, there may be long term or 'late effects' from the disease or treatment. Research indicates that in general survivors of childhood cancer are more likely to have learning difficulties than their peers. However, it is important to remember that everybody is different – one survivor may have a number of different learning difficulties, while for many others there may be no problems. It depends on the type of cancer, type of treatment, and cognitive (thinking and learning) ability before treatment. Sometimes learning difficulties show up several years after treatment.

## THE AREAS WHICH ARE MOST LIKELY TO BE AFFECTED FOLLOWING TREATMENT ARE:

- Attention and concentration.
- Working memory (doing things 'in your head' e.g. mental arithmetic).
- Planning and organising.
- Processing speed – rate of thinking and the speed with which thinking tasks are completed.
- Problems in these areas may then affect academic functioning – those skills required to cope with day to day school performance.

## RESEARCH INDICATES THAT THERE ARE SEVERAL FACTORS THAT MAY INCREASE THE CHANCE OF A SURVIVOR EXPERIENCING COGNITIVE DIFFICULTIES/PROBLEMS. THESE INCLUDE:

- Biological factors (e.g. tumour size & location).
- Type of treatment used (e.g. surgery, cranial irradiation, chemotherapy drugs which cross the blood/brain barrier).
- More aggressive treatment (cognitive difficulties are more likely to be associated with higher doses of drug/radiation).

IT'S IMPORTANT TO REMEMBER THAT EVERYONE IS DIFFERENT

WHICH AREAS OF LIFE ARE AFFECTED?



- Being younger at age of treatment.
- Being female.
- Non-biological factors (e.g. missed school days, loss of social and environmental stimulation).

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#### PURPOSE OF NEUROPSYCHOLOGICAL ASSESSMENT:

- To identify problems in thinking which might affect learning or learning the skills needed for everyday living.
- To provide the young person and their family with information on their strengths and difficulties. This can help with important decisions about education, life and career choices.
- To advocate for additional assistance where appropriate.

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#### WHAT A NEUROPSYCHOLOGICAL ASSESSMENT INVOLVES:

- Consent to undergo a comprehensive assessment is obtained from parents and/or the young person before the assessment.
- Information about the child/young person is collected from the young person, parents and school. This involves completing several questionnaires, discussion with the parents, the child/young person and school staff.
- Up to 6 hours of assessment involving face to face contact between the young person and the clinical psychologist. This may be spread over 2 or more sessions. During this process, the young person will be asked to answer questions and do tasks which involve problem solving such as building patterns with blocks, remembering information and paying attention.

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#### AFTER THE ASSESSMENT:

- Results are discussed with the young person and their parents.
- After discussion, the report is finalised and copies are sent to the family and Health Care Professionals.
- Depending on the results and needs of the young person and with consent, the clinical psychologist may seek support for the young person by contacting the Ministry of Education, the child/young person's school, the Child Cancer Foundation and CanTeen to see if they are able to help. The final decision about whether and what type of support is put in place for the child/young person rests with these organisations.



WHAT IS INVOLVED?



WHAT NEXT?