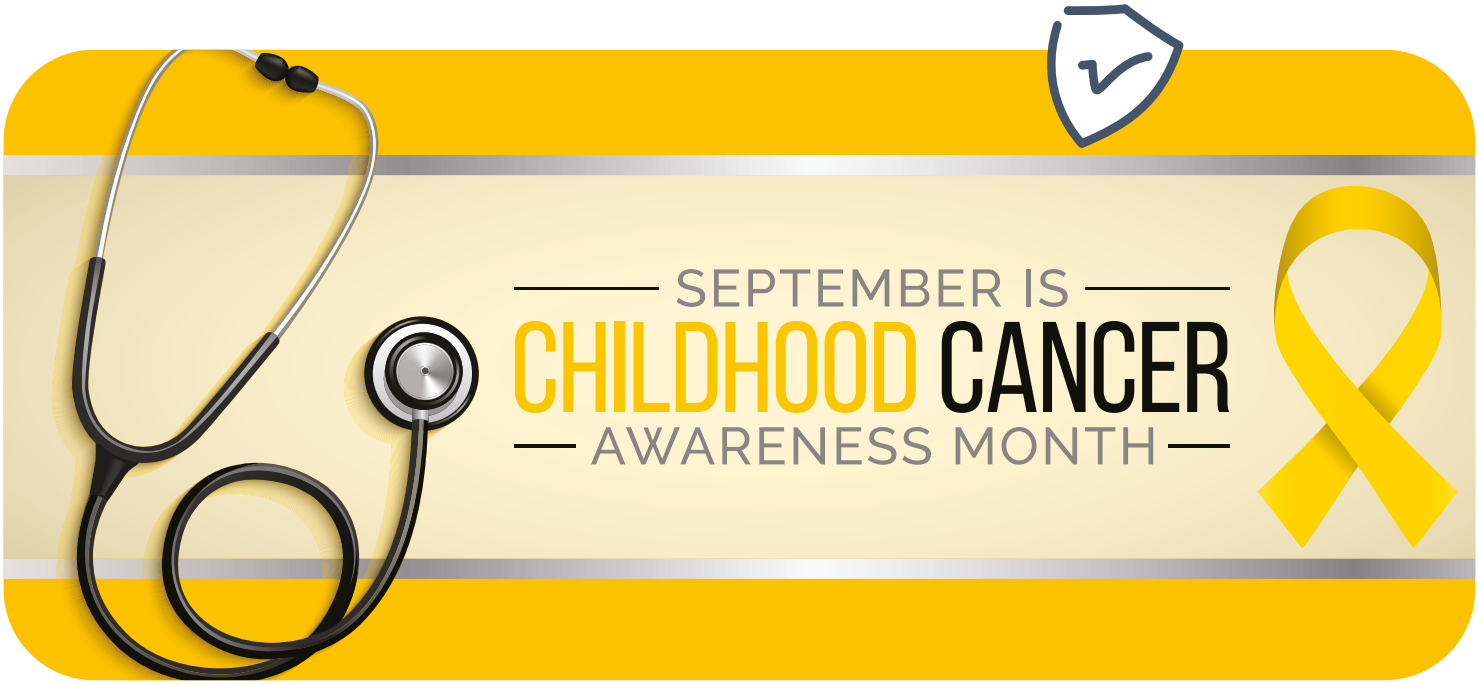
Ground-breaking cancer treatment now available to children in Ireland



As September is Childhood Cancer Awareness month, SCOR wanted to highlight an exciting development in cancer treatment which has recently become available in Ireland.

Cancer is a devastating disease and can affect people of any age. Whilst it is largely a disease affecting people in older ages, it can affect young children. Acute Lymphoblastic Leukaemia (ALL) is the most common childhood cancer, representing approximately 25% of all cancer diagnoses among children below 15 years of age. In the UK, 440 children are diagnosed with ALL each year and in Ireland, an average of 55 children are diagnosed.

Leukaemia is a cancer of the white blood cells, which are essential to the immune system in fighting infection.

There are two different types of white blood cells;

lymphoid cells (also known as lymphocytes)

These cells are produced in the bone marrow and normally repair and reproduce in a controlled fashion. In leukaemia, the process gets out of control and the cells continue to divide but do not mature. ALL is an overproduction of immature lymphoid cells, called lymphoblasts or blast cells. Immature lymphoid cells fill up the bone marrow and prevent it from making healthy blood cells. As these cells are immature, they are unable to work effectively which puts the child at increased risk of infection.

Common symptoms of ALL include frequent and persistent infections, unusual bleeding, unusual bruising, tiredness, pale complexion, breathlessness and coughing and anaemia.

The principal treatment for ALL in children is chemotherapy. A combination of chemotherapy drugs and steroid medicines is given in several stages and although 90% of ALL diagnoses in children can now be successfully treated, due to the cytotoxic drugs used with chemotherapy, treatment is long (typically given over a 2-3 year period) and gruelling. Symptoms can include prolonged nausea and vomiting, hair loss, reduced resistance to infection, bruising and bleeding, tiredness and diarrhoea.

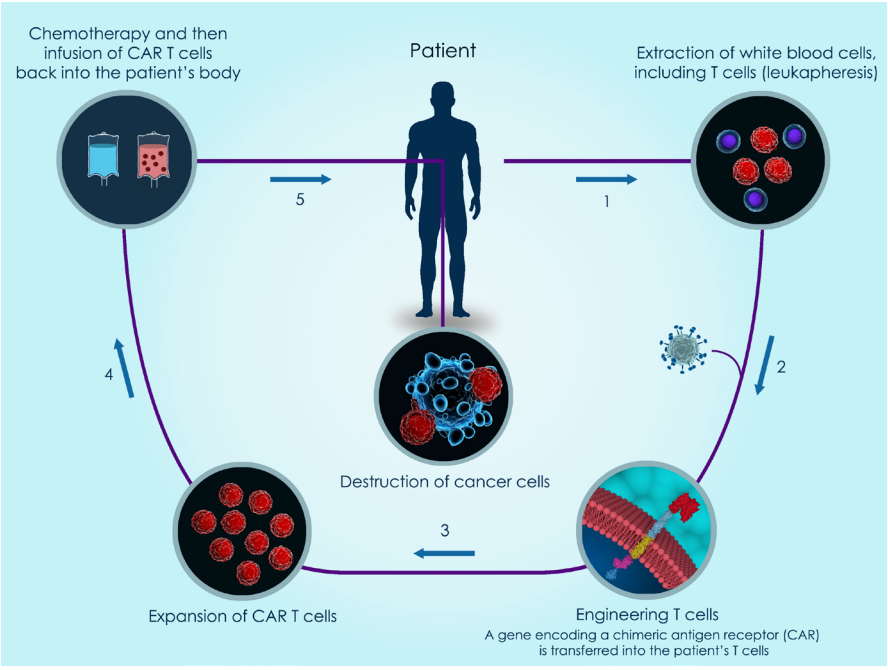
myeloid cells

Sadly, there are the 10% of children where chemotherapy is not effective. Until recently, the only option was palliative care and attempting to make the child as comfortable as possible in their final stages. However, in recent years, the advancement of immunotherapy has been a game changer. The aim of immunotherapy in cancer treatment is to re-awaken the body's immune system, thus reactivating the ability of T-cells to attack the tumour. As immunotherapy does not use toxic drugs or radiation, patients are able to tolerate it far better than traditional cancer treatments and, in most cases, there are fewer side effects.

ADOPTIVE T-CELL THERAPY

As well as targeting the tumour cells, immunotherapies also target the immune cells directly. An example of this is where a patient's T-cells can be removed and those that will attack the tumour are expanded in a laboratory, where a gene encoding a chimeric antigen receptor (CAR) is transferred into the patients T-cells and then reintroduced into the patient (much like stem cell therapy). Prior to reinfusion, the patient receives three days of lymphodepleting chemotherapy, rather than a prolonged period of intense chemotherapy that causes the harsh symptoms described above.

CAR-T-cells can be genetically modified so that they find it easier to recognise the tumour. Unlike standard medications, it is a 'living drug' that can grow, expand and form memory and potentially offer lifelong protection.



CAR-T cell therapy requires significant input from many teams to ensure safe and effective service delivery, including Haemato-oncology transplant teams, supported by Neurology, Intensive Care, Radiology, Pharmacy, Immunology, allied health, stem cell laboratory, quality, administration and other specialist services.

Still fairly new, CAR-T cell therapy has only been available in England since late 2018 and was not available in Ireland. The Health Service Executive (HSE) were sending eligible patients to the UK for treatment under the Treatment Abroad Scheme. That has now changed as since April 2022, CAR-T cell therapy has been available in Ireland with Children's Health Ireland (CHI) at Crumlin being chosen as the designated National Paediatric CAR-T Centre.

While the treatment has around a 40% success rate, without it, most of these patients would face terminal illness. The HSE spent €8.18m on Irish patients receiving this therapy in the UK in 2019 and 2020.

In 2013, my son was diagnosed with a brain tumour at the age of 5. After 2 surgeries, he was offered Proton Beam Radiation Therapy (PBRT). At the time, PBRT was not yet available in the UK so the treatment was to be given in Oklahoma in the United States. Therefore, I speak from experience that as the parent of a young child diagnosed with a significant illness, your world is turned upside down. There are many fears and emotions to deal with, whilst trying to remain strong for your child. To require young patients and their family a prolonged period of treatment overseas, where you will be away from your support network of family and friends is extremely daunting. I had no option but to have a long period of absence from work and my son and his siblings needing extended time off from school, which caused additional anxiety and even financial concerns. Thankfully, PBRT is now available in the UK and to see CAR-T cell therapy now available in Ireland so that patients do not have to travel overseas is a welcome development. It will significantly reduce the disruption already caused to patients and their families, caused by a life changing diagnosis. As this form of treatment continues to prove its worth in successfully curing more and more patients, it is hoped the treatment centres will be more widespread.

To find out more about Immunotherapy, See SCOR publication Immunotherapy: Winning the fight against cancer

Download SCOR inFORM on Immunotherapy

For further information about CAR-T cell therapy, please contact Paul Blyth, Underwriting and Claims Proposition Manager