

8 May 2020

Updated advice for paediatric oncology and BMT patients during the COVID-19 pandemic

The public health measures instituted by the Australian and New Zealand governments have been very successful in controlling the spread of SARS-CoV-2, the coronavirus that causes COVID-19. Currently, there are very low numbers of new cases being diagnosed each day despite one of the highest per capita testing rates in the world. This suggests that there are very low rates of community transmission currently. This means that we are in the fortunate position where plans are being made in most jurisdictions to re-open schools.

For parents of more vulnerable children, including paediatric oncology patients who are receiving or have just completed chemotherapy or who have recently undergone a bone marrow transplant, the decision as to whether or not to send their children back to school is more complex.

In late March, many Australian and New Zealand children's cancer centres recommended that immunosuppressed children and their siblings should be withdrawn from school. These immunosuppressed children included those who were receiving chemotherapy or had completed chemotherapy within the preceding two - three months, children who had undergone bone marrow transplantation in the last 12 months or those receiving treatment for chronic graft versus host disease. At this time, there was an exponential rise in the number of new cases per day and little was known about the risk of SARS-CoV-2 infection in immunosuppressed children.

As schools are being re-opened our recommendation now is that it is safe for all siblings and the vast majority of paediatric oncology and BMT patients to return to school. If your doctor had advised that it was safe for your child to attend school prior to the onset of the COVID-19 pandemic, we are advising that it is now safe for your child to attend school when they are re-opened.

This advice is based upon the following facts:

- 1) Children are far less likely than adults to contract SARS-CoV-2 infection and the risk of severe COVID-19 disease in those that do is very low.
- 2) The evidence suggests that most immunosuppressed children are not at a significantly higher risk of severe COVID-19 disease than their age matched peers.
- 3) The very low rates of community transmission mean that the risk of contracting SARS-CoV-2 infection is currently very low. The ready availability of testing and good contact tracing capability mean that we are well placed to isolate and contain outbreaks as they occur.
- 4) There is good evidence to suggest that children don't spread SARS-CoV-2 like adults. Child to child transmission is rare. The evidence suggests that it is very unusual for asymptomatic children to spread the disease.
- 5) The low risk of contracting SARS-CoV-2 is likely to persist for many months or even longer, depending upon if and when a vaccine becomes available. It is not in children's best interests to exclude them from school indefinitely when the evidence suggests that the risk of developing severe COVID-19 is very low.

We understand that you will have many questions regarding this advice and will attempt to answer those questions here:

What is the evidence to suggest that paediatric oncology patients don't have a significantly increased risk of severe COVID-19?

We have been following reports from countries that have been much more severely affected by the pandemic than Australia or New Zealand. In Italy, which has a population of 60 million and where there have been over 200,000 confirmed cases there have been reports of approximately 30 paediatric oncology patients who have tested positive. Only 2 of these patients developed pneumonia and no patient required admission to the paediatric intensive care unit (PICU). In Spain, which has a population of nearly 50 million and where there have been over 220,000 confirmed cases, there have been 47 cases reported in paediatric oncology and primary immunodeficiency patients. 25% of these patients were asymptomatic, 50% had only mild symptoms, 25% required additional oxygen and 4 of these patients (8.5%) were admitted to PICU. Two of these patients required ventilators to support their breathing and one, severely immunosuppressed patient died. There is one report of a child with ALL in China who required ventilation. That child had a co-infection with influenza. The largest global registry established by St Jude Children's Research Hospital and the International Society of Paediatric Oncology (SIOP) had reported 41 positive paediatric oncology patients from 15 countries on 4/5/2020. Remarkably, only one positive case has been reported from the United States on that registry (registry data will not be complete). Anecdotal evidence from other countries suggest a consistently lower than expected infection rate.

What is the evidence that severe COVID-19 is rare in children?

At the end of April there had been over 200,000 deaths globally due to COVID-19. It is estimated that only 20 of these deaths were in children. The most recent paediatric data from the US covered the period from 12/2 – 2/4 and reported that 2,572 (1.7%) of 150,000 cases were in children less than 18 years of age. There were 3 deaths among those 2,572 paediatric cases (0.1%). In a Chinese report of 2135 paediatric patients infected with SARS-CoV-2, only 13 (0.6%) were critically unwell with only one death (0.05%). Epidemiological data from Italy from February to mid-March reported that 1.2% of 22,512 cases were in children less than 18 years of age and there had been no deaths in patients under 30 years of age.

What is the evidence that transmission in schools is rare?

There have been a number of studies which have shown that the risk of transmissions in schools is low. The NSW government has released a report (<http://ncirs.org.au/covid-19-in-schools>) regarding their investigation of 15 schools where cases were identified in March. 735 students and 128 staff were considered to be close contacts of the 18 index cases in these 15 schools. There were only two cases of probable secondary infection among these close contacts (0.2%). One primary school aged child where teacher to child transmission was likely and one 16-year-old child where child to child transmission was likely. Studies in other countries have had similar results. A population-based study in Iceland did not detect any cases of asymptomatic carriage in children under 10 years of age. Studies from China, South Korea, Italy, Spain, the Netherlands and the United States have consistently found that it is quite rare for children to infect other children or adults.

What about the school cluster in New Zealand?

One of the main clusters of infection in New Zealand has been described as the Marist school cluster. There have been 92 cases associated with this cluster including 28 students. This cluster appears to have originated at a large social event involving staff members and parents associated with the school. The majority of infected students appear to have contracted the virus from an adult, most commonly from within their own family.

Why are children less commonly infected than adults?

This is one of the mysteries of SARS-CoV-2. It behaves very differently from most other respiratory viruses such as influenza which are commonly spread in the school environment. No one knows the answer to this question although one of the theories is that children may express fewer of the receptors that are required for the virus to enter the body.

What advice does the Government provide regarding children with complex medical conditions?

The Australian Health Protection Principal Committee (AHPPC) has provided advice on reducing the potential risk of COVID-19 transmission in schools. (<https://www.health.gov.au/news/australian-health-protection-principal-committee-ahppc-advice-on-reducing-the-potential-risk-of-covid-19-transmission-in-schools>)

With regards to children with complex medical needs, parents and carers are “urged to seek medical advice from their health practitioner to support informed risk assessment and decision making regarding the suitability of onsite education for their child.” We believe the advice contained here is evidence-based and safe for the vast majority of childhood cancer patients in Australia and New Zealand. If you have specific concerns, please speak to your child’s treating specialist.

What advice is being given to paediatric oncology patients in other countries?

Many countries’ schools are still closed because widespread community transmission is well established. Most countries continue to define paediatric oncology patients as being a vulnerable group. However, within paediatric oncology professional groups, there is increasing recognition that this increased risk is not as significant as we feared it might be. The government in the Netherlands, where additional research has been conducted on the risk of COVID-19 in children specifically addresses the question of at risk groups in their advice (<https://www.rivm.nl/en/novel-coronavirus-covid-19/children-and-covid-19>) and state that “children with underlying health conditions do not seem to run a greater risk of a severe course of COVID-19 than healthy children with the possible exception of children with severe obesity and or diabetes”.

Should the advice for vulnerable students be different to the advice for vulnerable teachers?

The risk to older adults or adults with underlying medical conditions of contracting the virus and developing severe COVID-19 does seem to be higher than the risk to immunosuppressed children. Therefore, it does seem reasonable that there might be differing advice for these two groups.

Are there any groups of patients who should not return to school?

Within the paediatric oncology and BMT population there is a wide range of the degree of immune suppression. The risk of developing severe COVID-19 is likely to be highest in the most immunosuppressed patients. BMT patients, in particular, are often more immune suppressed and susceptible to viral infections. Advice may differ depending upon individual children’s circumstances and possibly upon the state or country that you live in. Individual children’s cancer centres will continue to provide advice specific to their own patient groups.

Should I send my child to school if they are neutropaenic?

Neutrophils have very little role in protection against viral infections. The role of neutrophils is predominantly in fighting off bacterial and fungal infections. Lymphocytes are far more important in defences against viral infections. Therefore, being neutropaenic should not increase your child’s risk of contracting SARS-CoV-2 or other viral infections and should not influence whether you send them to school.

Should my child receive influenza vaccine?

There is at least one report of severe COVID-19 in a child with leukaemia who had infection with SARS-CoV-2 and influenza at the same time. We are concerned that co-infection with another respiratory virus may increase the risk of severe COVID-19. Therefore, we would recommend that your child and immediate family receive the flu vaccine.

What about the reports of Kawasaki's disease in children with COVID-19?

Recently there have been reports emerging of a possible association between COVID-19 and a condition called Kawasaki's disease in children. Kawasaki's disease is a severe inflammatory response characterised by fever, skin rash and occasionally inflammation around the heart. The association with COVID-19 has not yet been proven and to the best of our knowledge there is no suggestion that immunosuppressed children are at increased risk of developing this condition. Kawasaki disease usually occurs in previously healthy children and there is no known association between immunosuppressed states and Kawasaki disease. We will continue to monitor this possible association as more information becomes available.

Will your advice regarding school attendance change if more widespread community transmission occurs?

It may. Individual children's cancer centres will continue to update this advice based upon the current situation in their own region and as more information becomes available from Australia and overseas regarding the risk to paediatric oncology and BMT patients. It is also possible that the Government may re-institute localised school closures if there are outbreaks.

Is the risk different for primary or secondary school aged children?

The risk of contracting COVID-19 does increase with age and there is a slight increase in risk in secondary school aged children as opposed to primary school aged children. Equally, the risk of transmission at school appears to be slightly higher in older teenagers. However, this slight increase in risk is not sufficient for us to believe that recommendations regarding returning to school should be different for these two groups.

Does my child have to practice social distancing at school?

Returning to school does not mean that everything will return to normal. There will be an increased focus on handwashing and other hygiene measures. Social distancing is not really practical in the younger age groups and does not appear to be necessary. However, older students in the later secondary years are more capable of complying with social distancing recommendations and particularly as these older students probably do have a slightly higher risk of contracting the virus from other students, it makes sense to impress upon your older child that every effort should be made to follow recommendations regarding regular handwashing and social distancing. The greatest risk for school outbreaks remains adults. Therefore, it is very important that parents comply with restrictions to minimise the contact that they have with other parents, teachers and students in the school environment.

Should my child wear a mask at school?

The role of masks has attracted a lot of attention in the media. It remains our belief that the potential benefit of widespread use of masks is to reduce the risk of asymptomatic or minimally symptomatic adults spreading the virus rather than protecting an individual from contracting the virus. The use of masks has mostly been recommended in countries where there is widespread community transmission to try and minimise spread of the virus. Therefore, we don't believe that wearing a mask at school will provide any additional protection for your child.

We understand that the COVID-19 pandemic has significantly compounded the anxieties that families with a child undergoing treatment for cancer or a BMT already face. We also have to acknowledge that we don't have all the answers regarding this new virus and the risks that it presents to your child and we are learning as new information becomes available. We also appreciate that this document has provided a large amount of information. However, we felt that it was important to provide you with as much information as possible to explain our rationale in recommending that, although not completely free of risk, we believe that it is safe for your children to return to school and to help you make a fully informed decision when this becomes a possibility for your child.