

## Personalising Antiemetic Therapy for Children Receiving Chemotherapy.

### Background:

There are many guidelines available on managing chemotherapy associated nausea and vomiting (CINV) in children who are receiving chemotherapy. These vary from bespoke in-house documents to those that provide high level evidence and recommendation for the use of different antiemetic combinations in children.

While high levels of evidence are available for the efficacy of these combinations in groups of children translating this into appropriate management of CINV in an individual patient can be challenging. Recent data suggests that there are few defined risk factors that can determine if an individual is likely to be more sensitive to emetogenic chemotherapy and responses are idiosyncratic.

### Objectives:

To create a linear flow sheet on for antiemetic management during chemotherapy that initially starts based on chemotherapy emetogenicity but then can be tailored to individual's responses both intra- and inter-chemotherapy cycles.

### Methodology:

Recent guidelines that have been published of CINV management in children were reviewed. Recent studies of individual agents that were also used for refractory CINV in children were also reviewed. The National Children's Cancer Network of New Zealand guideline was reviewed and updated with formatting changed to allow for downloads of antiemetic plans.

Antiemetic plans formatted so that the level of therapy needed for an individual can be recorded and updated.

### Outcome:

Three CINV plans (with and without dexamethasone and resistant CINV) have been created. These follow establish guidelines and chemotherapy emetogenicity recommendations. However they allow for adjustment for children that need increased CINV prophylaxis compared to standard therapy. Plans can be customised and different plans can be used for the same patient if alternating courses of chemotherapy e.g. cyclophosphamide and vincristine alternating with ifosfamide and etoposide.

### Implications:

This approach allows units to adapt evidence based guidelines (that work for the majority of patients) for patients with increased CINV prophylaxis needs. They also assist in transferring an individual's CINV requirements across cycles so increased requirements during one cycle can be used at the start of the next cycle, decreasing ongoing CINV.