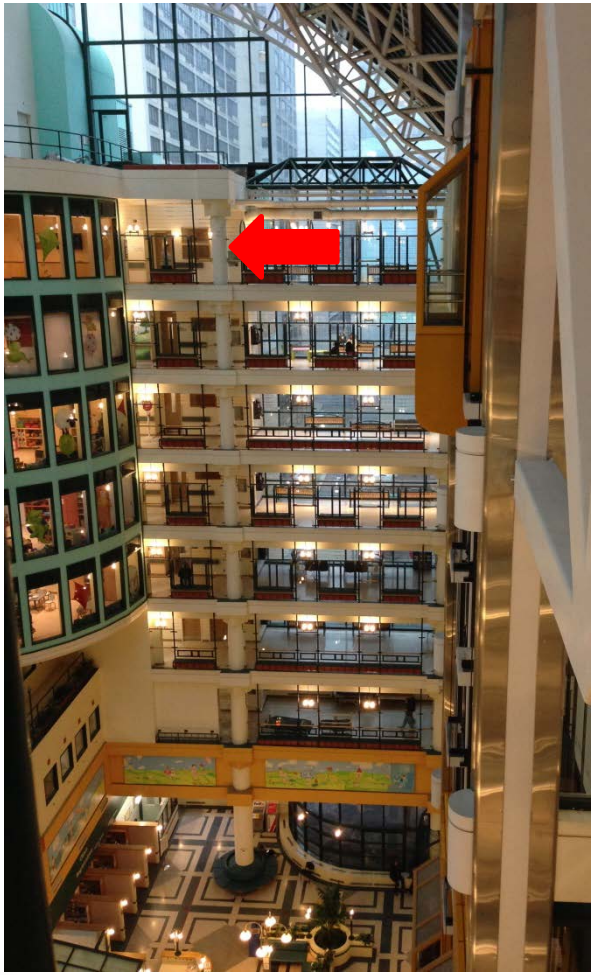
Hospital Authority Convention 2017

Corporate Scholarship Presentation

Patient Empowerment Program Through Individualized Pharmacist Medication Education in SickKids, Toronto

Sharon Lam, Pharmacist, HKCH

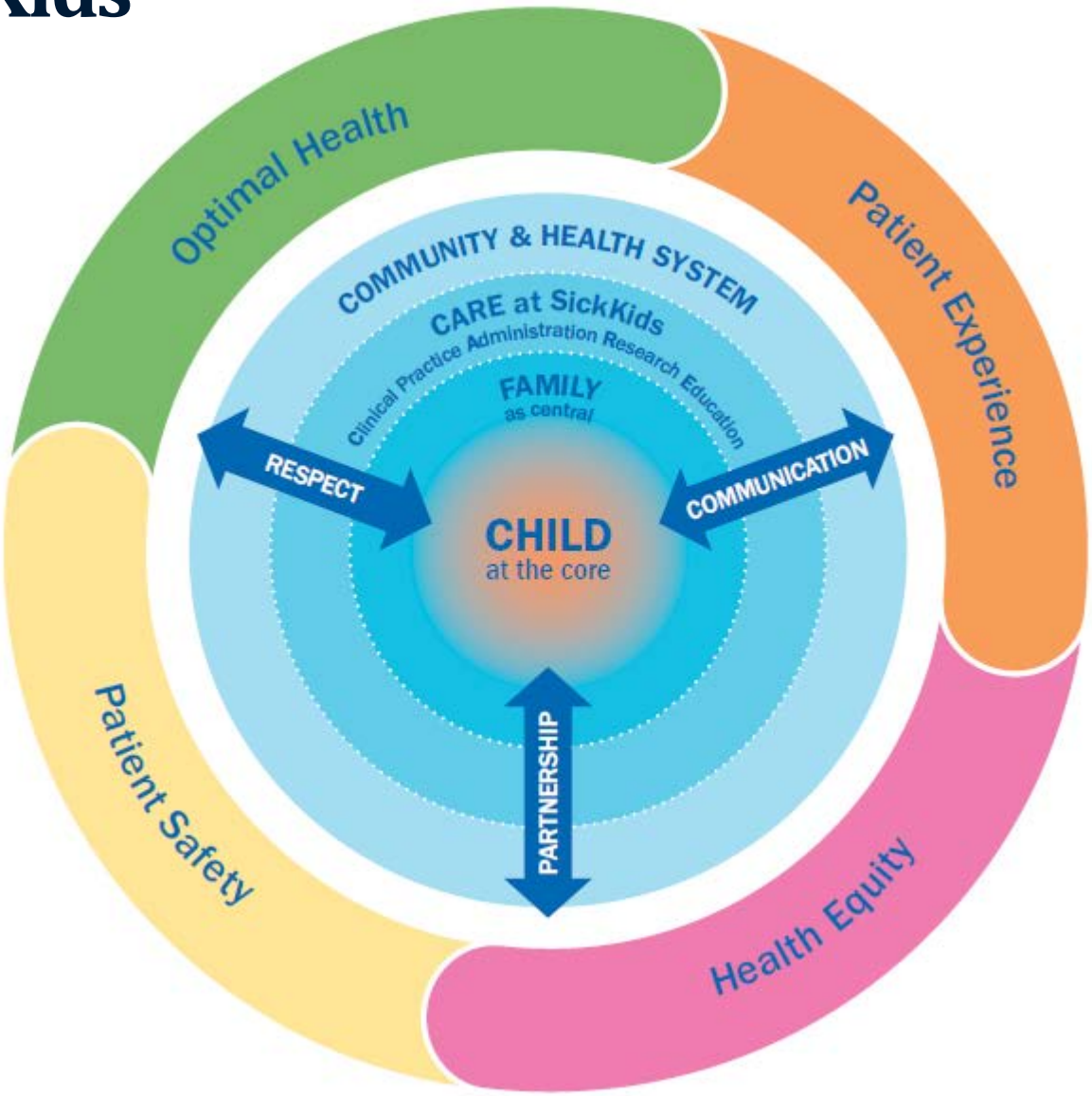
Haematology/Oncology



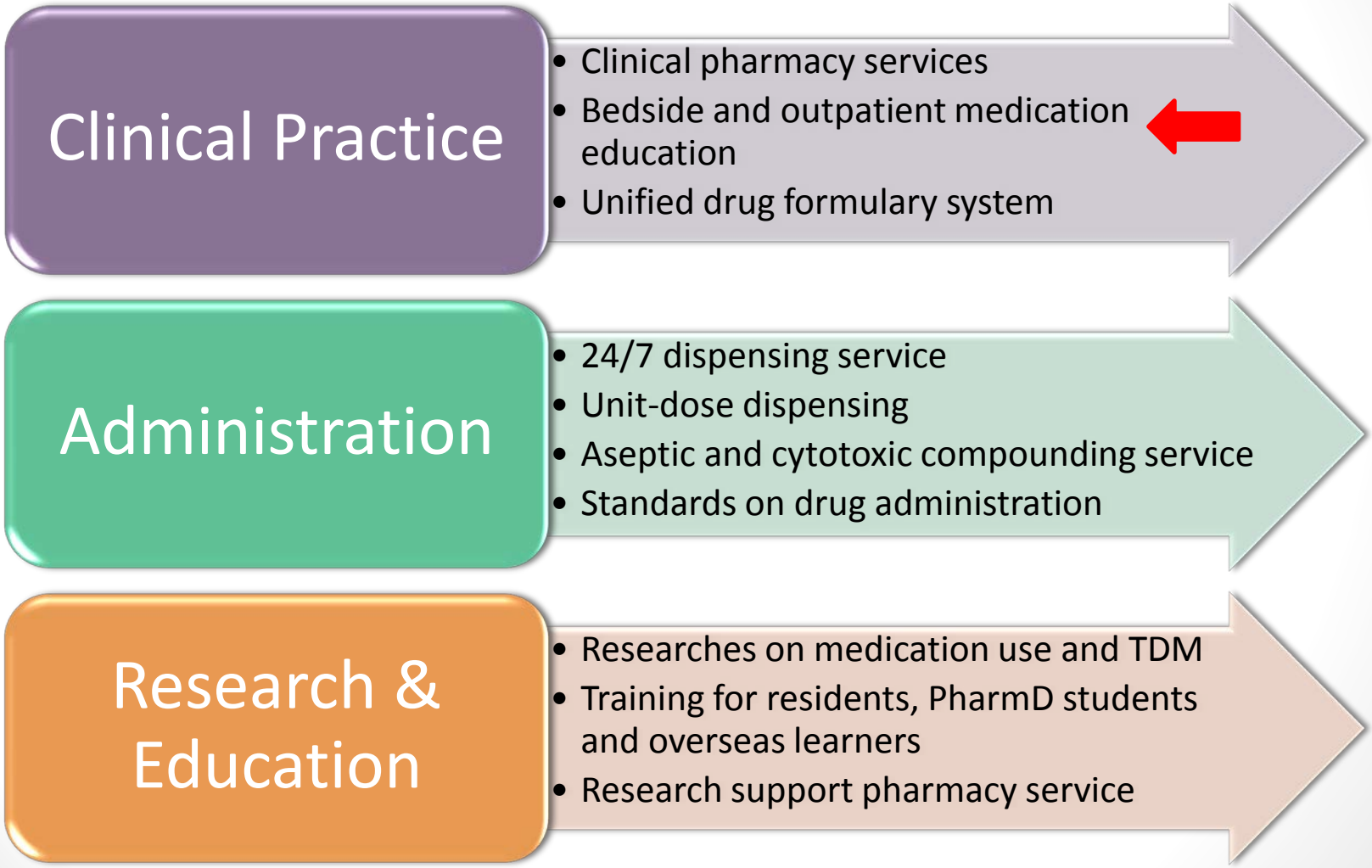
- Approx. 275 new cases/yr
- 20% of all cases in Canada
- In-patient 35 beds

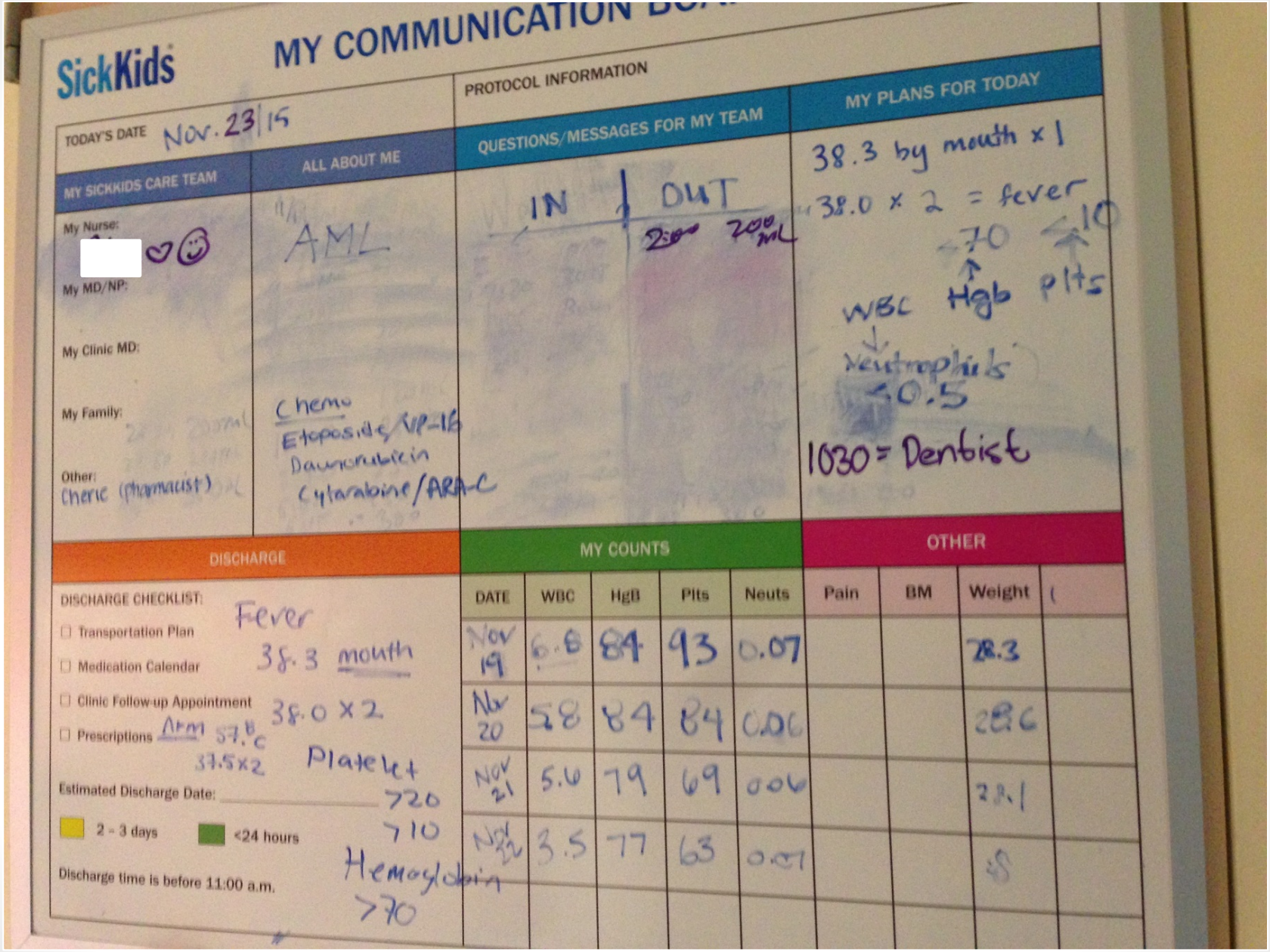
- Approx. 100 auto/allo stem cell transplants/yr
- Only BMT center in Ontario

Model of Child & Family-centered Care at SickKids



Pharmacist's Contributions in CARE





SickKids

MY COMMUNICATION BO

TODAY'S DATE Nov. 23/15

PROTOCOL INFORMATION

MY SICKKIDS CARE TEAM

My Nurse:

My MD/NP:

My Clinic MD:

My Family:

Other:
Cherie (pharmacist)

ALL ABOUT ME

AML

Chemo
Etoposide/VP-16
Daunorubicin
Cytarabine/ARA-C

QUESTIONS/MESSAGES FOR MY TEAM

IN | OUT
200 200 mL

MY PLANS FOR TODAY

38.3 by mouth x 1
38.0 x 2 = fever
<70 <10
↑ Hgb Plts
WBC
↓
Neutrophils
<0.5
1030 = Dentist

DISCHARGE

DISCHARGE CHECKLIST:

- ☐ Transportation Plan
- ☐ Medication Calendar
- ☐ Clinic Follow-up Appointment
- ☐ Prescriptions Arm 37.8°C
  37.5x2

Fever
38.3 mouth
38.0 x 2
Platelet
720
710
Hemoglobin
>70

Estimated Discharge Date: _____

2 - 3 days <24 hours

Discharge time is before 11:00 a.m.

MY COUNTS

DATE	WBC	HgB	Plts	Neuts
Nov 19	6.6	84	93	0.07
Nov 20	5.8	84	84	0.06
Nov 21	5.6	79	69	0.06
Nov 22	3.5	77	63	0.07

OTHER

Pain	BM	Weight	(
		28.3	
		28.6	
		28.1	
		28	

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Methotrexate

Your child needs to take the medicine called methotrexate (say: meth-o-TREX-ate). This information sheet explains what methotrexate does, how to give it, and what side effects or problems your child may have when he or she takes this medicine.

What is methotrexate?

Methotrexate is a drug that is used to treat cancer but it can also be used for non-cancerous conditions. It stops the cells from dividing and making new cells. Methotrexate is used to prevent graft versus host disease following bone marrow or stem cell transplant and in the treatment of rheumatoid arthritis and psoriasis.

You may hear methotrexate called MTX. Methotrexate comes in tablet and injection forms.

Before giving methotrexate to your child…

Tell your doctor if your child has ever reacted badly to methotrexate or any other medications, foods, preservatives or colouring agents.

Talk with your child's doctor or pharmacist if your child has any of the following conditions. Precautions may need to be taken with this medicine if your child has:

- infection or recent exposure to infection (for example chickenpox)
- liver or kidney problems
- stomach or intestine problems
- mouth sores
- low blood counts

How should you give your child methotrexate?

Methotrexate is a clear, yellow liquid that is often given by injection (needle) into a vein (intravenous or IV) or into the spinal column (intrathecal or IT). Your child will get methotrexate injections in the hospital clinic or on a nursing unit.

Methotrexate is also available as oral tablets. There are 2 different strengths of tablets (2.5 mg and 10 mg). Be sure to check that the amount of tablets you are giving matches the dose ordered.

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Cytarabine

Your child needs to take the medicine called cytarabine (say: sye-TARE-a-been). This information sheet explains what cytarabine does, how to give it, and what side effects or problems your child may have when he or she takes this medicine.

What is cytarabine?

Cytarabine is medicine that is used to kill cancer cells. This medicine works by stopping the cells from dividing and making new cells.

You may hear cytarabine called ara-C, cytosine arabinoside, or by its brand name, Cytosar®. Cytarabine comes in an injection form.

Before giving cytarabine to your child...

Tell your doctor if your child has ever reacted badly to cytarabine or any other medication.

Talk with your doctor or pharmacist if your child has any of the following conditions. Precautions may need to be taken with this medicine if your child has:

- an infection or recent exposure to infection (for example chickenpox)
- a history of kidney or liver problems
- low blood counts

How will your child get cytarabine?

Cytarabine is a clear liquid a nurse will give by needle into your child's vein (intravenously or IV) or under the skin (subcutaneously or SC). Or a doctor may give this medicine by a needle into your child's spine (intrathecal or IT). Usually your child will get this medicine in the hospital clinic or on a nursing unit.

What are the possible side effects of cytarabine?

Your child may have some of these side effects while he or she takes cytarabine. Check with your child's doctor if your child continues to have any of these side effects, and they do not go away, or they bother your child:

- loss of appetite
- nausea (upset stomach) and vomiting (throwing up)

SickKids

Family Med-Aid

Baking Soda Mouthwash

Your child needs to take the medicine called baking soda mouthwash. This information sheet explains what baking soda mouthwash does, how to make it, and how to give it.

What is baking soda mouthwash?

Baking soda mouthwash is made at home to help keep the mouth clean and moist. Good mouth care is important as it helps to prevent infections, pain, cavities, and other tooth problems. You may also hear baking soda mouthwash called sodium bicarbonate mouthwash. It is not a product that you can buy already made, but it is easy to make using the recipe on this sheet (see below).

How to make your own mouthwash:

To make your own mouthwash, you will need a box of baking soda, a measuring cup, measuring spoons, a clean bottle with a lid, and tap water.

Follow these 5 steps to make your own mouthwash:

1. Fill a measuring cup with 1 cup (250 mL) of water from the tap.
2. Measure 1/4 teaspoon (1 mL) of baking soda with a measuring spoon.
3. Put the baking soda you just measured into the cup of water from the tap.
4. Stir the baking soda in the water until the baking soda dissolves.
5. Pour the mouthwash from the measuring cup into the bottle and close the lid.

Your mouthwash is now ready to use. This mouthwash can be used for 24 hours. After 24

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Trusted answers from The Hospital for Sick Children

Chemotherapy At Home: Safely Giving Your Child Tablets

If your child's chemotherapy dose is a part of a tablet or carefully review the following instructions.

These instructions can be used for chemotherapy tablets

- Mercaptopurine (6-MP)
- Methotrexate (MTX)
- Thioguanine (6-TG)

Before giving any chemotherapy, please see Chemothera Medicines.

Before giving your child chemotherapy tablets

- Wear gloves, a gown, and a mask.
- Make sure disposal supplies are ready.

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Trusted answers from The Hospital for Sick Children

Fever and Neutropenia

What is fever and neutropenia?
When a child receives treatment for cancer, he is at risk of infections. Sometimes these infections can be serious. At times the number of white blood cells can decrease to very low amounts. This is called neutropenia. It is during this time when the risk of having a serious infection is higher.

Often, a fever is the first sign of an infection. This is why all children who have a fever during cancer treatment need to be evaluated urgently. If the doctor finds that the child has low white blood cells (neutropenia), they will start your child on antibiotic treatment at once.

Fever

A fever is part of the body's response to infection. Your child has a fever if his:

- temperature is 38.3°C or more by mouth one time, or;
- temperature is 38°C or more by mouth for one hour or more.

Whenever possible, take your child's temperature by mouth. Only take your child's temperature under the arm if you can't take it by mouth.

When checking for fever under your child's arm, your child has a fever if his:

- temperature is 37.8°C or more under the arm one time or;
- temperature is 37.5°C or more under the arm for one hour or more.

Neutropenia

The blood contains a type of white blood cell that helps the body protect itself from infection. These blood cells are called neutrophils. Healthy people usually have more than 1.5×10^9 neutrophils for every litre of blood. Neutropenia happens when the number of neutrophils in the blood decreases to less than 0.5×10^9 cells/litre.

Discharge Counselling

Discharge Medication Diary

The Hospital for Sick Children - Paediatric Oncology

Medication Dosing Chart

PATIENT NAME

DATE: 20 MARCH TO 2 APRIL 2016

Medication		Sun	Mon	Tue	Wed	Thu	Fri	Sat
March 2016		**20**	**21**	**22**	**23**	**24**	**25**	**26**
Dexamethasone 1 mg/mL Suspension Give 3.2 mL (= 3.2 mg) by mouth once in the morning after food.	9am							
6-Mercaptopurine (6-MP) 50 mg Tablet Give 0.25 tablet (=12.5 mg) by mouth once in the evening on odd days and 0.5 tablet (=25 mg) on even days. (*Give on a fasting stomach without milk.)	6pm	**0.5 Tab**	**0.25 Tab**	**0.5 Tab**	**0.25 Tab**	**0.5 Tab**	**0.25 Tab**	**0.5 Tab**
Methotrexate (MTX) 2.5 mg Tablet Give 4 tablets (= 10 mg) by mouth once a week on every Tuesday.								
March – April 2016		**27**	**28**	**29**	**30**	**31**	**1**	**2**
6-Mercaptopurine (6-MP) 50 mg Tablet Give 0.25 tablet (=12.5 mg) by mouth once in the evening on odd days and 0.5 tablet (=25 mg) on even days. (*Give on a fasting stomach without milk.)	6pm	**0.25 Tab**	**0.5 Tab**	**0.25 Tab**	**0.5 Tab**	**0.25 Tab**	**0.25 Tab**	**0.5 Tab**
Methotrexate (MTX) 2.5 mg Tablet Give 4 tablets (= 10 mg) by mouth once a week on every Tuesday.								

Potential Outcomes

- Increase treatment adherence
- Fewer hospitalizations
- Improve self-management capabilities
- Shorter hospital stay

Pilot Project at The Lady Pao Children's Cancer Centre, PWH

- Individual bedside counselling by pharmacist with standardized written information provided
  - Educate on current chemo regimen
  - Introduce supportive meds
  - Identify drug-related problems
- Selected targets:
  - Newly diagnosed ALL that put on CCCG ALL 2015 Study Protocol
  - During induction and consolidation phases

Aspects of Counselling Service

Name and indication of each anti-cancer medication and related supportive medication

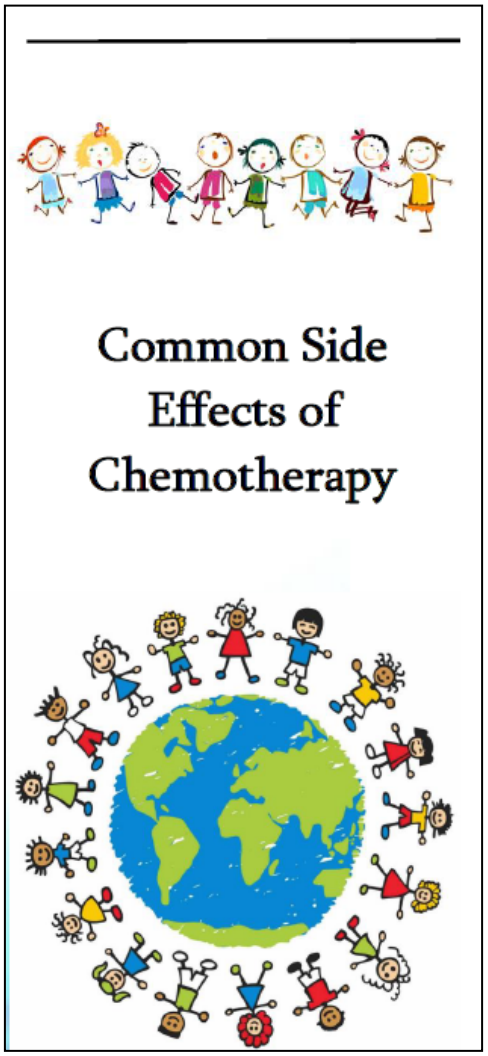
General and specific side effects expected from treatment

Management of expected side effects

Additional information to patients on oral chemo and targeted therapy

Principles of safe handling, storage and disposal

Patient Information Leaflet (PIL)



What are the side effects of chemotherapy (chemo)?

Chemotherapy drugs damage fast growing cells. As well as destroying cancer cells, they also cause damage to normal cells. It is this damage to normal cells that may cause side effects. **Every child reacts differently to chemotherapy** and some children may have no side effects at all.

<u>Within 30 minutes to a day:</u>

- Nausea or vomiting
- Allergic reaction

<u>Within two or three weeks:</u>

- Fatigue
- Low blood counts (myelosuppression): There are three main types of blood cells. All three types can be affected.
  - Low number of white blood cells (neutropenia) →Associated with infection risk
  - Low number of platelets (thrombocytopenia) →Associated with bleeding risk
  - Low number of red blood cells (anemia)
- Loss of appetite
- Sore mouth or throat
- Diarrhea
- Constipation
- Taste changes
- Pain and damage to the ends of nerves in hands, feet, or jaw (neuropathy)
- Hair loss
- Changes to mood or behavior

Which side effect(s) your child has will depend on the type and dose of your child's chemotherapy and whether your child has other health problems.

What can be done to deal with the side effects of chemotherapy?

The doctor may prescribe several drugs to improve or prevent the side effects of chemotherapy. You can also make your child more comfortable by following some of the suggestions here, which are listed alphabetically.

Anaemia

When?	Symptoms	What to do?
During the course of chemo	• Pale skin • Tiredness • Poor appetite • Shortness of breath	• Get plenty of rest by taking naps during the day • Limit activities • Offer a well-balanced diet • When lying down, sit first and then stand

Bruising or bleeding

When?	Symptoms	What to do?
During the course of chemo	• Gum / nose bleeding • Bruising • Reddish urine • Black or bloody bowel movements • Headache or changes in vision	• Use a soft toothbrush • Avoid activities that might cause bleeding • If nosebleed, sit up, lean forward, apply local pressure to nose and spit out any blood • Tell your doctor immediately if you have any unexplained bruising or bleeding

Constipation

When?	Symptoms	What to do?
During the course of chemo	Irregular or hard bowel movement	• Serve plenty of fluids such as water, tea, diluted fruit juice, or prune juice • Ensure some physical activity every day

Diarrhea

When?	Symptoms	What to do?
During the course of chemo	Frequent or loose bowel movements	• Offer plenty of drinks and small meals • Avoid sweet, fried, greasy, or spicy foods • Infants should continue breastfeeding

Feeding and appetite problems

When?	Symptoms	What to do?
7-14 days after chemo	Your child may not feel like drinking or eating	• Try new foods or recipes • Offer small meals with nutritious snacks • Make mealtimes fun • Take anti-nausea medications as directed • Do not argue, nag or punish your child if refuse to eat

Hair loss

When?	Symptoms	What to do?
Within a few weeks of beginning chemo	• Total hair loss • Thinning of hair • Brittle hair	• Cut hair short or shave head • Use a mild (neutral pH) shampoo and soft hair brush • Use a sun screen, hat, or scarf to protect scalp

Infection

When?	Symptoms	What to do?
7-14 days after chemo	• High temperature • Shivering or flu-like symptoms • Sore throat or cough • Rash • Diarrhea • Pain when urinate	• **If temperature ≥38°C/100.4°F, contact the hospital immediately** • Wear masks when going to public areas • Wash hands often with soap and water • Do not eat raw or undercooked fish, seafood, meat, chicken or eggs

Mucositis (sore mouth)

When?	Symptoms	What to do?
7-14 days after chemo	• Dry mouth and tongue • Sore mouth and tongue • Bleeding from gums, mouth or tongue	• Rinse mouth or use mouthwash regularly • Brush after each meal • Keep lips moist

Nausea or vomiting

When?	Symptoms	What to do?
Within a few hours to 14 days after chemo	• Feeling sick (nausea) • Throwing up (vomiting)	• Rinse mouth with water after vomiting • Take anti-nausea medications as directed • Offer small meals • Avoid sweet, fried or fatty foods

Neuropathy (nerve pain)

When?	Symptoms	What to do?
Symptoms will get better after treatment ends, although it may take some time	• Weakness or numbness in the hand and/or feet • Walking problems • Shaking or trembling	• Tell your child's treatment team

For any query, please seek advice from your doctor, pharmacist or nurse.

Project Statistics

- Period: December 2016 – April 2017
- 25 education sessions
- 13 patients
- 1-4 sessions/patient
- Average counselling time: 30 mins/session

Way forward…

- Include other new cancer types
- Discharge counselling with priority to BMT cases
- Medication diary for patients, especially those on maintenance phase of chemotherapy
- Develop drug-specific bilingual PILs

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- Paediatric Haematology/Oncology Team, PWH

Thank you!