A NEWSLETTER BY DEPARTMENT OF PHARMACY—Shifa (SIH)

PHARMACY BULLETIN

Shifa International Hospitals Ltd.
شفا انٹرنیشنل ہسپتال لمیٹڈ

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Inside this issue

Shifa Pharmacy starts Discharge Medication Counseling In Emergency

(Naima Manzoor, Emergency Pharmacist)

Background:

In Emergency Pharmacy of Shifa, our traditional role includes prescription review, dispensing, emergency supplies management (Crash cart, Disaster trolley, patient transfer bags), provision of drug information, compliance to medication use protocols, toxicological emergency management and floor stock management etc., we aspired to expand the role further by involving ED pharmacists in patient and caregiver education.

Taking cue from **ASHP Guidelines on Emergency Medicine Pharmacist Services**, that urges ED pharmacy to develop a system of triage for patient education and counseling for the patients discharged from the ED with a new or high-risk medication or whose visit to the ED was the result of a medication adverse event or error.

Methodology:

We started with identifying a team of ED pharmacists for the project. The team reviewed discharge summaries and identified common drugs, age distribution, # of discharges/day and peak timings etc. Taking physician and nursing lead of ED in loop was the next step. Later we ensured that education info/guide/brochure etc. are available for major type of drugs prescribed. ED pharmacy then started the pilot project including patient counseling, discharge medication reconciliation and take-home medicines dispensing (thereby eliminating the need of patients to come to pharmacy for medicines after being discharged from ED)

Result:

Success of this project is visible by the numbers which is increasing every quarter. This project was started in Dec 2020 (1 hour/day) and patients were 9. Timings were gradually increased and in first 3 months (Dec 20-Feb 2021) average 21 patients/month were catered. From March 2021 onwards the # of patients increased to average **82/month (Mar-May 2021) i.e. almost 4 folds!**

Patients were highly engaged and mostly asked question related to timings of dose, foods to avoid, lab tests to be done, drug allergies etc.

Also there was opportunity for pharmacists to do **interventions**, most commonly involved are: formulary brand switching, wrong drug/dosage form selection while duplications/omission during reconciliations were minimal.

Overall it is a much appreciated and value added project that is important for healthcare team and patients equally.

Immunizing immunocompromised Cancer Patients:

Hira Urooj Resident Pharmacist

The Centers for Disease Control and Prevention (CDC), under guidance from the Advisory Committee on Immunization Practices (ACIP), recommends certain vaccines for routine use in all persons, stratified by age and clinical indication. Effectiveness of vaccines may be lowered in patients that are immunocompromised because of cancer or its therapy in comparison with the effectiveness in patients that are not immunocompromised. But vaccination can still reduce morbidity and mortality.

Timing of Vaccination:

When feasible, vaccines should be administered prior to plan immunosuppressive chemotherapy. Inactivated vaccines should ideally be given at least 2 weeks prior to starting chemotherapy, or 3 months after completion. Live-attenuated vaccines should be administered ≥ 4 weeks prior to the onset of such therapy, or ≥ 3 months after immune restoration.

Recommendations For Routine Vaccinations In Adults With Underlying Cancer

Vaccine	Dosing Schedule	Consideration
Influenza	Seasonal	Administration of inactivated vaccine 2 or more weeks prior to chemotherapy is preferred
Pneumococcus (19yearrs and above age)	Unvaccinated	Single dose of PCV13 should be given, followed by a single dose of PPSV23, 8 weeks later.
	1 dose of PPSV23 received	A single dose of PCV13 should be given if 1 or more years have passed after the last dose of PPSV23.
	Additional doses of PPSV23 required	The first additional dose of PPSV23 should be given at least 8 weeks after the most recent dose of PCV13 and at least 5 years after the most recent dose of PPSV23.
Hepatitis B	3 doses at 0,1 and 6 months	Screen patients for immunity, and vaccinate as needed. Consider antibody measurement after last vaccine
Hib	Give to splenectomized patients.	If patient is unimmunized, a dose of Hib should be offered after chemotherapy
Meningococcal	Splenectomized patients	For international travelers, vaccination is recommended for those visiting the parts of sub-Saharan Africa known as the "meningitis belt" during the dry season.
Hepatitis A	Usual recommendation	Consider antibody testing in case of future exposure after 2-3 years post vaccination.
MMR	CAUTION	May be considered in specific cases at least 3-6 months after chemotherapy (i.e. children not vaccinated or epidemiological situation). Recommend checking antibody level prior.
Varicella/Zoster	CAUTION There is no data for Zoster vaccination after chemotherapy.	May be considered in children not previously vaccinated, at least 3-6 months after chemotherapy is finished.

Nadeem Masih, Supervisor Surgical Pharmacy

Women's health

National Women's Health Week begins on Mother's Day May 9, each year. As we celebrate the women and girls in our lives this week, it is important to remind them to take care of themselves and to make their health a priority. To help improve and maintain physical and mental health, women can:

1. Schedule regular medical check-ups and preventive screenings
2. Get active, Eat healthy food
3. Manage mental health, including sleep, stress, and depression
4. Avoid unhealthy habits (excessive caffeine, smoking, prolonged sitting etc)

Women have many unique health challenges and transitions throughout their lives, including menstruation, pregnancy, and menopause. These changes in women's bodies sometimes make it difficult to diagnose a problem or can cause the signs to be missed entirely. Learn some important warning signs from the recent studies discussed below.

Abdominal Fat in Menopausal Women linked to Heart Disease Risk

A recent study shows that it is not so important how much fat a woman is carrying on her body, but where she is carrying that fat. It is important to monitor waist circumference in addition to weight and body mass index (BMI). As women approach and go through menopause, hormonal fluctuations and other environmental factors can cause weight gain. Women accumulating excess abdominal fat during menopause puts them at greater risk of heart disease even if they maintain a healthy weight. The researchers found that abdominal fat accumulation accelerated within two years of the woman's last period and then continued to gradually increase after the menopausal transition. For every 20% increase in abdominal fat, the thickness of the carotid artery increased by 2%.

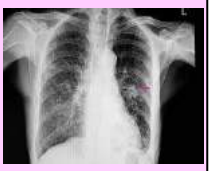
New Malarial Vaccine expected to be a potential breakthrough

Malaria causes more than 400,000 deaths/year globally, according to the World Health Organization (WHO), mostly among children in Sub-Saharan Africa. *For the first time, the world has a serious malaria vaccine candidate that* has showed 77% efficacy in the early trials.

Despite more than 100 vaccine candidates entering clinical trials in recent decades, none have previously reached the target of 75% efficacy which WHO set as a target to be achieved by 2030.

When trialed in 450 children in Burkina Faso, the vaccine was found to be safe, and showed "high-level efficacy" over 12 months of follow-up. Larger trials in nearly 5,000 children between the ages of five months and three years will now be carried out across four African countries to confirm the findings.

Antibiotic Therapy in Pneumonia — Shorter the Better!



Shorter antibiotic therapy is safe for Inpatients with Pneumonia or community-acquired pneumonia (CAP), shortening antibiotic therapy by 5 days does not affect cure rates, a trial published in *The Lancet* found. Thus could substantially reduce antibiotic consumption, resistance, adverse events, and costs.

Study done in adult patients with moderately severe CAP who were clinically stable after 3 days of treatment with β-lactam therapy. The patients were randomly assigned to an additional 5 days of β-lactam therapy (1g amoxicillin/125 mg Clavulanate 3 times a day PO), or placebo.

At day 15, 78% of the placebo group and 68% of the β-lactam group were cured, meeting the non inferiority margin.

Reference: *Slomski, A., 2021. JAMA, 325(20), pp.2039-2039*

Double Anaerobic Coverage: The rule and the exceptions

CDC's Core Elements of Antibiotic Stewardship Programs include avoiding antibiotic therapy that is unnecessarily duplicative, including the use of agents with overlapping spectra. E.g.:

Combination of two agents with anaerobic activity is unnecessary in most cases.

Exceptions

- ***C. difficile infection***
- ***Necrotizing fasciitis***
- ***Certain biliary infections***
- ***Clindamycin in pneumocystis pneumonia.***

A study performed in pediatrics with perforated appendicitis showed no beneficial clinical effects of adding metronidazole to piperacillin/tazobactam. The intra-abdominal guidelines published by the IDSA and the Surgical Infection Society recommend metronidazole as the anaerobic agent of choice for combination therapy with agents devoid of clinically-significant anaerobic activity, whereas beta-lactam monotherapy such as piperacillin/tazobactam or a carbapenem is reserved for complicated cases of intra-abdominal infection. ***Reference:*** *Sanford Guide to Antimicrobial Therapy, https://www.unmc.edu/intmed/divisions/id/asp/other*-information/docs/aerobiccoverage.pdf

USE ANTIBIOTICS WISELY

If we use antibiotics when not needed, we may not have them when they are most needed.

Plazomicin: A Novel Aminoglycoside:

Approved by FDA for use in adults with complicated urinary tract infections (cUTI), including pyelonephritis. Plazomicin displays potent in vitro activity against Enterobacteriaceae, including extended-spectrum β-lactamase-producing and carbapenem-resistant isolates.

The CARE trial compared Plazomicin (PBC) and Colistin based combinations (CBC) in patients with serious infections with carbapenem-resistant Enterobacteriaceae (CRE). PBC showed numerically decreased mortality or serious disease-related complications compared to CBC (23.5% vs 50%, resp.; 90% CI -0.7 to 51.2). Furthermore, plazomicin was also associated with a lower incidence of nephrotoxicity than colistin. However, small sample sizes limit the interpretation of the findings in the CARE trial.

Reference: *Eljaaly, K., et.al., 2019.* Plazomicin: a novel aminoglycoside for the treatment of resistant Gram-negative bacterial infections. Drugs, 79(3), pp.243-269.

Hecolin®: World's Only Hepatitis E vaccine, now in Pakistan

Hecolin® has recently been approved by the DRAP in Oct 2020 for Pakistan. It is manufactured by a Chinese pharmaceutical company Xiamen Innovax, and is a VLP (Virus Like Particle) based vaccine with an efficacy of up to 93%.

Its dosing schedule is same as hepatitis B vaccine (0,1 and 6 months) plus also an accelerated schedule (0,7 and 21 days) in case of an outbreak.

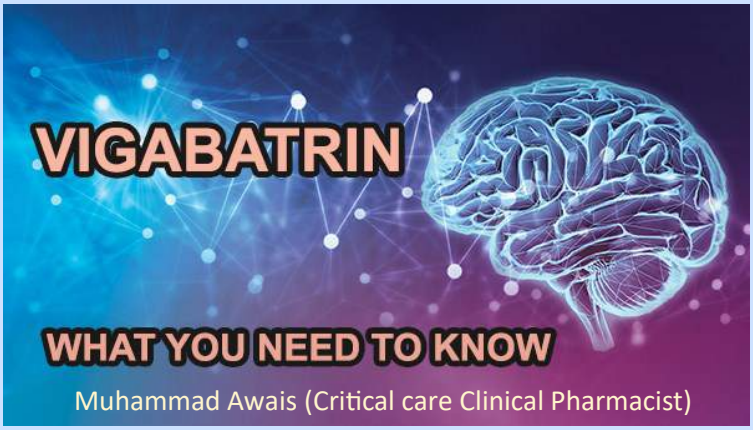
Safety studies are underway in high risk populations like pregnant, chronic liver disease (CLD) and immunocompromised patients. Administration in these high risk patients should be guided by risk vs benefits analysis as superinfection with Hepatitis E in these patients can significantly affect the mortality rate.

How to avoid Hepatitis E infection?

Wash hands frequently, drink clean-boiled water, use purified water for cooking.

WHAT YOU NEED TO KNOW ABOUT VIGABATRIN

Vigabatrin is recently launched in Pakistan hence prescribers, patients and pharmacists must be aware about the risks associated with this drug in order to avoid patient harm.



What Is Vigabatrin?

1. Vigabatrin is a prescription medication for adults and children 2 years of age and older with refractory complex partial seizures (RCPS) .

2. Also for infantile spasms (IS) in pediatrics aged 1 month to 2 years of age who have and for whom the potential benefits outweigh the potential risk of vision loss.

What Is the Most Serious Risk Information About Vigabatrin Treatment?

Vigabatrin can cause permanent vision damage.

Severe vision loss particularly loss of peripheral vision (ability to see to the side when look straight ahead) is reported with Vigabatrin. In addition to vision loss patient may experience blurred vision and these effects are irreversible.

Vision loss can occur with any amount of Vigabatrin

It is not possible for healthcare provider to know when vision loss will happen. It could happen soon after starting Vigabatrin or any time during treatment. It may even happen after treatment has stopped.

What are the Signs of Vision Loss with Vigabatrin Treatment?

Patients must tell physician right away if notice any of the following signs, as these changes can mean that vision damage has occurred:

- Loss in the ability to see to the side when looking straight ahead (peripheral vision).
- Blurry vision or Not seeing as properly as before starting vigabatrin
- Being surprised by people or things coming in front of you that seem to come out of nowhere
- Your child is acting differently than normal after started on Vigabatrin

What Can I Do to Help Reduce the Risk of Vision Loss with Vigabatrin?

Visit an ophthalmologist or optometrist as recommended by your healthcare provider

Your healthcare provider will discuss periodic vision monitoring with you. Even if your or your child's vision seems fine, it is important that regular vision tests are done because vision damage can happen before you or your child notice any change Vision assessment is recommended at baseline (no later than 4 weeks after starting Vigabatrin), at least every 3 months during therapy, and about 3 to 6 months after the discontinuation of therapy.

Right of Patients/Parents	Responsibilities of Prescribers:	Responsibilities of Pharmacist:
Before beginning vigabatrin therapy, prescribing physician must go over the risks associated with vigabatrin and provide patient guide/education brochure. Patients/parents queries and concerns must be satisfactorily answered. Discuss possible treatment alternates with your doctor	To be prescribed only by neurologist or pediatrician trained to manage Infantile Spasm. Inform patient/parents about vision loss and the need for periodic monitoring of visual field. Healthcare providers should ensure that periodic visual monitoring is performed on an ongoing basis.	Verify that the prescription is written by authorized doctor and is correct Recheck with patient if they have been informed about risks and need of periodic vision monitoring Counsel about the method of giving dose to child by dissolving the dispersible tablet

How Should I Take Vigabatrin?

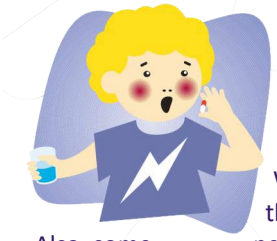
- Take Vigabatrin exactly as the healthcare provider tells you to
- Vigabatrin is usually taken 2 times each day — Vigabatrin may be taken with or without food
- Do not stop taking Vigabatrin without talking to your healthcare provider. This can cause serious problems
- The medicine comes in 500mg dispersible tablet.

How to administer smaller doses to children:

⇒ Dissolve 1 tablet should in 10ml plain drinking water (use a syringe or measuring cup to measure 10ml). This will make a solution as 50mg per ml. After preparing solution take out the required milliliter (mL) of medicine with the help of syringe/measuring cup, as prescribed by doctor. Mix the tablet with water immediately prior to administration. use provided oral syringe, not a household spoon. Any remaining liquid should be discarded.

Teaching children how to swallow tablets and capsules

Aimen Faheem Resident Pharmacist



A guide for parents, caregivers and children over 4 year

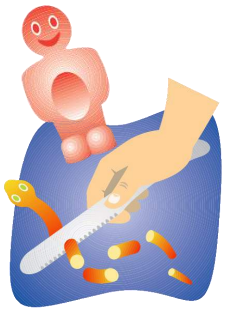
Swallowing

We teach children not to swallow anything until it has been completely chewed and not to put strange objects in their mouths. It is only natural that they think they can't or shouldn't swallow a tablet. Also, some people have narrow throats, sensitive palates or a very strong gag reflex which initially makes swallowing larger objects uncomfortable.

The plan

By starting with small lollies that are easy to swallow and slowly increasing to a larger size, children can learn to become comfortable swallowing tablets and capsules whole.

You will need



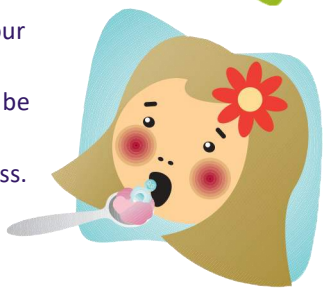
- Lollies, e.g. jelly beans, jelly snake strips cut in small
- Flavored yoghurt or ready-to-eat dairy pudding
- Plastic knife and plate
- Spoon

Keep this in mind

- Make this a fun, relaxed project.
- Keep sessions short so your child doesn't become tired and stressed.
- Be flexible.
- Give plenty of praise for all your child's accomplishments along the way. Even little steps are important.
- If there is little progress, talk with the medical caregiver; do not discourage the child.

Keep all medicines out of reach of children.

What to do



1. Give your child some control. Go shopping together for the food and let your child choose the yoghurt or pudding flavors.
2. Allow your child to cut the lollies into very small pieces and put them in the yoghurt or pudding. Ask your child to swallow them with the yoghurt or pudding.
3. Encourage your child to swallow the pieces of lolly without chewing. Suggest to the child that this may be done more easily if the lolly is moved toward the back of the throat.
4. Once the child can swallow small pieces, demonstrate cutting them a little bigger and repeat the process.
5. Once your child has mastered average tablet-sized pieces of lolly, thin out the yoghurt or pudding with a little milk and encourage the child to practice with this.
6. Continue until your child feels comfortable with this, then change to swallowing with water.
7. Buy some small empty gelatin capsules at a pharmacy. Practice each day with these capsules in water. Allow your child to handle them, pull them apart or chew them. They may even like to fill them with sprinkles before taking them.
8. Buy some larger sized empty gelatin capsules for practicing. Have your child swallow a vitamin tablet daily to keep in practice.

Other helpful points

- When learning to swallow, use warm rather than cold water to relax the throat.
- Mask bitter or strong flavors with ice cubes, licorice, fruit or chocolate.
- Any jelly-type lollies can be used.
- Substitute apple puree for yoghurt or pudding, if preferred.

Remember swallowing difficulties can be experienced by many adult patients as well, please call 051-846-4538, Shifa Compounding Pharmacy to discuss with your pharmacist about possibility of making tablet/capsule into syrup or suspension, which could be easily taken by patient.

SGLT-2 Inhibitors or GLP-1 Receptor Agonists Use In Type 2 Diabetes: Expert Guidelines

Atiqa Riaz, Ambulatory Care Staff Pharmacist

Clinical decisions about the treatment of type-2 diabetes have been led by glycemic control for decades. SGLT-2 inhibitors and GLP-1 receptor agonists are traditionally used in people with elevated glucose levels after metformin treatment.

Sodium-glucose cotransporter 2 (SGLT-2) inhibitors are a class of oral anti-diabetic drugs, including **Empagliflozin, Canagliflozin, Dapagliflozin, and Ertugliflozin.** They **increase the excretion of glucose and sodium** in the urine by inhibiting SGLT-2 in the kidney, thus lowering the blood glucose level. They may also slightly lower blood pressure and body weight. **Glucagon-like peptide 1 (GLP-1) receptor agonists** are a class of non-insulin injection anti-diabetic drugs, including **Exenatide, Liraglutide, Lixisenatide, Albiglutide, Dulaglutide, Semaglutide, and Loxenatide.**

The trials demonstrating atherosclerotic cardiovascular disease (CVD) and chronic kidney disease (CKD) benefits independent of medications' glucose-lowering potential. An international panel including patients, clinicians, and methodologies has released risk-stratified recommendations concerning the use of SGLT-2 inhibitors or GLP-1 receptor agonists in adults with type 2 diabetes:

- **Three or fewer cardiovascular risk factors without established CVD or CKD: Use of SGLT-2 inhibitors or GLP-1 receptor agonists is not suggested**
- **More than three cardiovascular risk factors without established CVD or CKD: SGLT-2 inhibitors can be used, while GLP -1 receptor agonists use is not suggested**
- **Established CVD* or CKD**: Use SGLT-2 inhibitors or GLP-1 receptor agonists.**
- **Established CVD* and CKD**: Use SGLT-2 inhibitors. GLP-1 receptor agonists to be used as alternate**
- **For those committed to further reducing their risk for CVD and CKD outcomes: Use SGLT-2 inhibitors rather than GLP-1 receptor agonists**

***On diagnostic testing, prior MI, or stroke** **eGFR <60, Albuminuria**

Reference : "SGLT-2 inhibitors or GLP-1 receptor agonists for adults with type 2 diabetes: a clinical practice guideline" ; BMJ—2021

Treating Snake Envenomation

Zeeshan Ali, Staff Pharmacist ER

Antivenins derived from animals is considered to be the only specific therapy available for the treatment of snake bites. When used quickly and properly, they are able to neutralize life-threatening systemic influxes, for example toxic contaminants such as toxin-induced coagulopathy, hemorrhage, neurotoxic effects, and / or hypothetical shock.

Antivenins can be classified as **monovalent or polyvalent** depending on the immunogenesis used during production. Monovalent anti-venom is developed by vaccinating animals with venom from a single snake species, while polyvalent anti-venom contains antibodies produced from the cocktails.

General Management Principles:

1. Recognize and correct any immediately life-threatening conditions
2. Provide analgesia (Opoiods preferred, NSAIDs less preferable due to potential hematological effects)
3. Assess for local and systemic toxicity
4. Minimize local tissue damage
5. Prevent/correct any systemic toxicity (e.g. hypotension)
6. Prevent or correct hematological toxicity

Improve limb function (crotalid-envenomated limb should be elevated)

Tips:

- Infections following snakebite are exceptionally uncommon. Prophylactic antibiotics are not recommended.
- Snakes do not harbor *Clostridium tetani* in their mouths, and the risk of acquiring tetanus is exceptionally low. So if a patient's tetanus immunization is not current, a TDaP should be administered while the patient is being evaluated. However, tetanus immunoglobulin in unnecessary.

Severity of Envenomation

No envenomation: Absence of local or systemic reaction fang marks (+/-) .

Mild envenomation: Fang marks(+) moderate pain minimal local edema (0-15cm) erythema (+) ecchymosis (+/-) no systemic reaction.

Moderate envenomation: Fang marks(+) severe pain moderate local edema (15-30cm) erythema & ecchymosis (+) systemic weakness, sweating, syncope, nausea vomiting, anemia or thrombocytopenia.

Severe envenomation: Fang marks(+) severe pain severe local edema (>30cm) erythema & ecchymosis (+) hypotension, paresthesia, coma, pulmonary edema, respiratory failure.

References:

https://www.who.int/news-room/fact-sheets/detail/snakebite-envenoming

Drug Regulatory Authority of Pakistan (DRAP) Updates

First version of **National Biosafety Guidelines for Research, Development & Production of Human Stem Cells** is now available on DRAP website

DRAP has invited comments on draft guidelines on: **RAPID ALERTS AND RECALLS ARISING FROM QUALITY DEFECTS** GUIDELINES

SRO 526 (I)/2021 Dated April 30, 2021, provides **exemption to Medical devices registration** for specified period of time.

MYTHS AND FACTS about COVID Vaccines

Muneeba Aftab, Oncology staff Pharmacist

MYTH: The COVID-19 vaccine can affect fertility

FACT: The COVID-19 vaccine will not affect fertility. The truth is that the COVID-19 vaccine encourages the body to create copies of the spike protein found on the coronavirus's surface. This "teaches" the body's immune system to fight the virus that has that specific spike protein on it.

MYTH: If I've already had COVID-19, I don't need a vaccine

FACT: People who have gotten sick with COVID-19 may still benefit from getting vaccinated. Due to the severe health risks associated with COVID-19 and the fact that re-infection with COVID-19 is possible, people may be advised to get a COVID-19 vaccine even if they have been sick with COVID-19 before.

MYTH: Researchers rushed the development of the COVID-19 vaccine, so its effectiveness and safety cannot be trusted.

FACT: Covid Vaccines are made by process devised decades ago and tested again and again. Along with it their process were speedy but no vaccine would be recommended if it pose any health risks.

MYTH: Getting the COVID-19 vaccine gives you COVID-19

FACT: The vaccine for COVID-19 cannot and will not give you COVID-19. The COVID-19 vaccine does not contain the SARS-Co-2 virus, so you cannot get COVID-19 from the vaccine. The protein that helps your immune system recognize and fight the virus does not cause infection of any sort.

MYTH: Certain Covid vaccines are better than others

FACT: All vaccines confer immunity as per standards, set for minimum effectiveness of vaccine efficacy. The best vaccine is the one you can get first!

Insulin is a High Alert Medicine

Insulin Fast Facts

- ◊ Clear insulin should be drawn in syringe first
- ◊ Basal insulin (long or intermediate acting) to be given once or twice daily, SubCut only
- ◊ Bolus insulin (short/ rapid acting) to be given 3 times a day before or with meals
- ◊ Unopened vials are to be refrigerated
- ◊ Opened vials can be kept at room temperature and used within 28 days

Switching to or from NPH Insulin

Muhammad Gulzaib Pediatric Clinical Pharmacist

Product Switch	Conversion
Insulin detemir (LEVEMIR) to NPH	•Convert unit-per-unit* (dose reduction of 20% in total daily dose is also recommended) •Give NPH twice daily •Divide NPH dose equally or 2/3 in the AM and 1/3 before dinner or at bedtime
Insulin glargine U100 (LANTUS, BASAGLAR) or insulin glargine NPH	•No specifics available for TOUJEO conversion. Consider 20% dose reduction.
Insulin degludec (TRESIBA) to NPH	•Limited information to guide switch •Consider unit-per-unit conversion •Give NPH twice daily •Divide NPH dose equally or 2/3 in the AM and 1/3 before dinner or at bedtime
NPH insulin to insulin glargine U100 (LANTUS, BASAGLAR) or insulin glargine U300 (TOUJEO)	•NPH given once daily can be switched unit-per-unit •NPH given twice daily should have total daily dose reduced by 20% and initiate new insulin as a once daily injection.
NPH insulin to insulin detemir (LEVEMIR)	•Convert unit-per-unit. •May need additional insulin detemir . • Insulin detemir can be give once daily or divided twice daily
NPH insulin to insulin degludec (TRESIBA)	Convert unit-per-unit and give once daily* (dose reduction of 20% in total daily dose is also recommended). Reference: https://www.diabetes.org/sites/default/files/2019-08/switching-between-insulin

Coming Soon

Shifa Pharmacy Conference & Workshop

25-26th September 2021

Pleased to announce; this **World Pharmacist Day,** Shifa Department of Pharmacy is going to arrange Virtual Pharmacy Conference and Workshop on 25-26th September 2021.

It will include

- ⇒ **Talks by renowned Pharmacist Speakers**
- ⇒ **Poster Presentations and competition**
- ⇒ **Relevant and useful Pharmacy topics**
- ⇒ **Best Poster Award**

For More details

Please follow SHIFA SCOPE page at Facebook or contact at drug.Information@shifa.com.pk

Detailed program will be shared soon

Ms Sundus Awan, Principal Pharmacist Compounding Services is now a **Certified Compounded Sterile Preparations pharmacist by ASHP-USA**

This certification is another milestone towards our commitment for achieving best pharmacy practices and utilize the knowledge and skills to improve patient care.

Formulary Updates ***(Visit Shifa Intranet Home Page—click Medication Updates for details)***

Brand	Generic	Class	Indications
Dowvigil	**Modafinil**	CNS Stimulant	Narcolepsy , ADHD
Vlep	**Vigabatrin**	Antiepileptic	Infantile spasm, RCPS
Coversam	**Perindopril+Amplodipine**	ACE Inhibitor + CCB	Hypertension
SMOF Lipid 20%	**Soyabean+MCT+Olive+ Fish oil (IV lipid)**	Caloric Agent	Caloric/fatty acid source (TPN)
Dopacone	**Levo + carbi + entacapone**	COMT Inhibitor	Parkinson
Ilevro (0.3%)	**Nepafenac eye drops**	(NSAID), Ophthalmic	Ocular pain, inflammation
Caspogin 50mg	**Caspofungin**	Antifungal	Candidiasis, Aspergillosis
Silorap 8mg	**Silodosin**	Alpha 1 Blocker	Ureteral calculi
Vlep 500mg	**Vigabatrin**	Anticonvulsant	Infantile spasms
Etovel 50mg cap	**Etoposide**	Antineoplastic Agent	ALL, AML
Tapento IR 75mg	**Tapentadol**	Analgesic, Opioid	Moderate-Severe Pain

Wear your mask correctly, stay safe!

Looking for Your Valuable Feedback

We want to bring to you valuable, updated and interesting information via Pharmacy Newsletter, so please spare some time to provide your valuable feedback in the form of comments or suggestions. Its your newsletter and with your help we'll make it better!

Contact us to get your ***e-copy or hard copy of newsletter*** *or to give* ***comments/suggestions*** *via email at :* ***drug.information@shifa.com.pk***

Thank you.

Shifa International Hospitals Ltd.
شفا انٹرنیشنل ہسپتال لمیٹڈ

25 Years of Excellence Silver Jubilee Celebrations