

# MEDITIME

A Medical Bulletin from TIME Pharmaceuticals (P.) Ltd.

Issue 25

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For free circulation only

## World Immunization Week

**24<sup>th</sup> - 30<sup>th</sup> April 2018**

*Immunization for all throughout life*

When immunization rates are high, the wider community is protected including:

Infants who are too young to receive their vaccines.



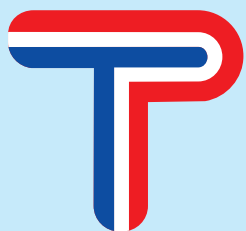
Older adults at risk of serious diseases

People who take medication that lowers their immune systems



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# MEDITIME

A Medical Bulletin from TIME Pharmaceuticals (P.) Ltd.

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## Editorial



First and foremost I express heartfelt appreciation to all medical fraternity who have provided their valuable articles as well as feedback on behalf of the entire editorial board and TIME Pharmaceuticals Family. It was with the mere-cooperation, enthusiasm, spirit and overwhelming responses of our well wishers that we could make our quarterly health magazine MEDITIME a grand success with the introduction of glorious 25 issues.

Within this decade, we have seen lots of changes in our country, Federal Democratic Republic of Nepal. Now the nation is in the process of implementation of constitution in which there is completion of three stages of election and formation of state government. There is a big hope for the improvement in all sectors including health sector as well. Addressing health sector in Nepal, skipping some of urban cities, the health facilities have not reached to the all part of country due to which maternal mortality, malnutrition, lack of health education are still predominant. The infectious diseases are becoming one of the leading cause of death in this 21<sup>st</sup> century. It is interesting to note that some infectious disease such as malaria, visceral leishmaniasis (kala-azar) and tuberculosis, which were under control or on the verge of elimination, are re-emerging as significant health problems in Nepal. Still polio, measles and neonatal tetanus are reported in Nepal. Beside this, viral hepatitis is widely spreading, occurring mainly in urban areas due to overcrowding, poor sanitation and inadequate supplies of clean water. This prevalence causes its resulting diseases such as chronic hepatitis, cirrhosis and hepatocellular carcinoma, as a significant problem for Nepal. Non-communicable disease such as cardiovascular disease, mental health problem, diabetes, etc is also in growing process. Thus, to make the country well developed, it is necessary to give attention towards the health improvement of the living population and hope every single people get benefitted from the health service provided by the government.

We are supported with valuable articles related to osteoporosis, breast feeding, antibiotic resistance and hospital based waste management. We thank our valued doctors for providing valuable articles to share with our readers. And we request for the continuous support from all medical fraternities to make this quarterly magazine more successful.

Lastly, I wish a very Happy New Year 2075 to all.

Sudarshan Lal Shrestha  
Editor in Chief

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## Depression is as bad for your heart as high cholesterol

When you think of heart attacks, you might assume the most common causes are smoking, high cholesterol, or obesity. Mental health issues probably don't spring to mind. But a new study suggests that depression poses just as great risk to your heart health as those more familiar heart disease contributors.



In a new analysis, German researchers looked at health information from 3,428 European men, ages 45 to 74, who were followed for 10 years. And it turned out, dying from cardiovascular disease during the study period was as strongly associated with depression as it was with several of the classic "big five" heart disease risk factors: obesity, high cholesterol, diabetes, high blood pressure, and smoking.

Depression, which for this study, was determined by a checklist of mood symptoms, including anxiety and fatigue, accounted for about 15% of cardiovascular and coronary heart disease deaths, and high cholesterol and obesity for 8 to 21%. Diabetes posed less of a risk, accounting for 5 to 8% of heart-related deaths.

Only two risk factors accounted for more cardiovascular deaths than depression: smoking (between 17-20%) and high blood pressure (between 30-34%). The authors conclude that "depressed mood and exhaustion holds a solid middle position within the concert of major cardiovascular risk factors."

Mental health screenings should be standard in patients who have classic heart disease risk factors, and depression should be addressed to prevent additional risk to the heart. They add, treating depression is likely to have noticeable, tangible benefits to patients something that can't be said for factors like high blood pressure or cholesterol.

"There's a growing recognition for the need to screen and treat depression, and that doing so can reduce the risk of negative cardiovascular outcomes," says Heidi May, PhD, a cardiovascular researcher at the Intermountain Medical Center Heart Institute in Salt Lake City.

May says that depression likely affects the heart in a variety of direct and indirect ways. "There are some physiological changes that take place in the body with depression, and there are also behavioral changes." Depressed people are more likely to smoke, exercise less, and skip their prescribed medication.

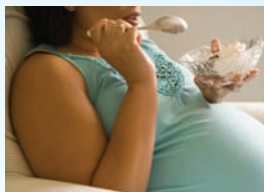
For the current study, the results for each variable were adjusted for all other risk factors suggesting that depression is independently linked to heart disease, and is not just a contributor to unhealthy behaviors.

Previous research has also shown that this association is likely a two-way street: Just as depression can contribute to heart disease, suffering from a serious heart condition can also lead to depression. And in turn, depression can then impair recovery.

That's why it's important not only for people with cardiovascular risk factors to take care of their mental health, says May, but also for people with depression to take care of their hearts. "These conditions have a compounding effect," she says, "and they should all be treated whether you have one risk factor or five."

## Scientists study link between unhealthy pregnancy diet and ADHD

Experts examine how a diet high in fat and sugar could alter baby's DNA in a way that might cause behavioural problems.



A diet high in fat and sugar during pregnancy may be linked to Attention Deficit Hyperactivity Disorder (ADHD) in children with behavioural problems early in life, experts have found.

The research, led by scientists from King's College London (KCL) and the University of Bristol, is believed to be the first to indicate that an unhealthy diet alters the baby's DNA in a way that might lead to brain changes and later ADHD.

ADHD and conduct problems are the most common reasons for child mental health referral in the UK and tend to occur in tandem. More than 40% of children with a diagnosis of behavioural problems also have a diagnosis of ADHD.

Studying participants from the Bristol-based "Children of the 90s" cohort, the experts compared 83 children with early-onset persistent conduct problems with 81 children who had low levels of conduct problems. They assessed how the mothers' nutrition changed IGF2, a gene involved in foetal development and the development of the cerebellum and hippocampus, areas of the brain implicated in ADHD.

The results showed high fat and sugar diets of processed food and confectionery were associated with greater modification of IGF2 in both sets of children. Higher IGF2 methylation was also associated with higher ADHD symptoms between the ages of 7 and 13, but only for children who showed an early onset of behavioural problems such as lying or fighting.

"ADHD/conduct problems are very complex psychiatric problems, they are multi-determined," said Co-author Dr Edward Barker, from the department of psychology at KCL. "Diet could be an important but it's going to be important alongside a host of other risks. A sensible diet can improve symptoms but it's not a single causal agent."

He also said the results did not prove causation and needed to be replicated in larger studies, but added to a weight of evidence about the importance of diet for good mental health.

"Diet can affect a range of psychiatric problems," he said. "There's good evidence that diet can affect depression. Of course it affects obesity, but obesity is related to how we feel about ourselves and can be related to ADHD."

"It may be that the mothers with a worse diet are more impulsive by nature, and hence find it hard to resist unhealthy options, and this inherited tendency is, at least in part, responsible for the presence of ADHD symptoms in their children," said Dr Max Davie, the mental health lead at the Royal College of Paediatrics and Child Health.

## Drinking problems tied to higher risk of early dementia

Alcohol use disorders were associated with 3 times the risk of dementia and twice the risk of early onset cases, a French study found.

Heavy drinkers may be more likely than other adults to develop dementia, especially in middle age.

For the study, researchers examined data from 2008-2013 on more than 31 million French hospital patients, including more than 1 million who were diagnosed with dementia. About 5% of the dementia patients had so-called early onset dementia that started before age 65, and most of these cases were alcohol-related, the study found.

"Chronic heavy drinking was the most important modifiable risk factor for dementia onset in both genders and remained so after controlling for all known risk factors for dementia onset," said lead study author Dr. Michael Schwarzingler, chief executive officer of Translational Health Economics Network and a researcher at INSERM-Universite Paris Diderot, Sorbonne Paris Cite in France.

Surprisingly, heavy drinkers who got sober didn't have a lower dementia risk than their peers who remained problem drinkers," Schwarzingler said.

"This finding supports that chronic heavy drinking leads to irreversible brain damage," Schwarzingler added.

While some previous research suggests that alcohol may lead to cognitive impairments including a risk of dementia, other studies have linked light or moderate alcohol use to a healthier brain, researchers note in the Lancet Public Health.

Globally, an estimated 3.3 million people a year die as a result of alcohol misuse, accounting for about 6% of all deaths, according to the WHO.

The WHO defines chronic heavy drinking as more than 60 grams of pure alcohol, or at least 6 drinks, for men and more than 40 grams, or at least 4 drinks, for women.

During the study period, 945,512 people were diagnosed with alcohol use disorders. Most of these cases were alcohol dependency.

Overall, about 3% of the dementia cases were attributable to alcohol-related brain damage, and other alcohol use disorders were recorded in almost 5% of dementia cases.

With early onset dementia cases, however, the connection to alcohol appeared stronger. About 39% of these cases were attributable to alcohol-related brain damage, and another 18% were tied to other alcohol use disorders.

Alcohol use disorders were associated with three times the risk of dementia and twice the risk of early onset cases, the study found. Excluding alcohol-related brain damage, alcohol use disorders were still associated with a two times greater risk of vascular and other dementias.

Alcohol use disorders were also associated with all other independent risk factors for dementia, such as tobacco smoking, high blood pressure, diabetes, lower education, depression, and hearing loss.

But the study wasn't a controlled experiment designed to prove whether or how drinking might cause dementia or cognitive problems to develop in middle age.





# Osteoporosis

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Osteoporosis means "porous bones", from Greek: *ostoun* meaning "bone" and *poros* meaning "pore". Literally means "porous bone". This disease is characterized by too little bone formation, excessive bone loss, or a combination of both, leading to bone fragility and an increased risk of fractures of the hip, spine and wrist. There are 8.9 million fractures world wide per year due to osteoporosis. Globally, 1 in 3 women and 1 in 5 men over the age of 50 will have an osteoporotic fracture. This places a large economic burden on the health care system due to costs of treatment, long-term disability, and loss of productivity in the working population.

Osteoporosis is a disease where decreased bone strength increases the risk of a broken bone. It is the most common reason for a broken bone among the elderly. Bones that commonly break include the back bones, the bones of the forearm, and the hip. Until a broken bone occurs there are typically no symptoms. Bones may weaken to such a degree that a break may occur with minor stress or spontaneously. Chronic pain and a decreased ability to carry out normal activities may occur following a broken bone.

## Epidemiology

It is estimated that 200 million people have osteoporosis. Osteoporosis becomes more common with age. About 15% of white people in their 50s and 70% of those over 80's are affected. It is more common in women than men. In the developed world, depending on the method of diagnosis, 2 to 8% of males and 9 to 38% of females are affected. Rates of disease in the developing world are unclear.

Osteoporosis itself has no symptoms; its main consequence is the increased risk of bone fractures.

Fractures are the most dangerous aspect of osteoporosis. Debilitating acute and chronic pain in the elderly is often attributed to fractures from osteoporosis and can lead to further disability and early mortality. These fractures may also be asymptomatic. The most common osteoporotic fractures are of the wrist, spine, shoulder and hip. The symptoms of a vertebral collapse (compression fracture) are sudden back pain, often with radicular pain (shooting pain due

to nerve root compression) and rarely with spinal cord compression or cauda equina syndrome. Multiple vertebral fractures lead to a stooped posture, loss of height, and chronic pain with resultant reduction in mobility.

Fractures of the long bones acutely impair mobility and may require surgery. Hip fracture, in particular, usually requires prompt surgery, as serious risks are associated with it, such as deep vein thrombosis and pulmonary embolism, and increased mortality.

## Risk factors

Risk factors for osteoporotic fracture can be split between non modifiable and potentially modifiable.

### Non modifiable

The most important risk factors for osteoporosis are:

#### Advanced age

**Female sex:** Estrogen deficiency following menopause or surgical removal of the ovaries is correlated with a rapid reduction in bone mineral density.

**Race:** European or Asian ancestry.

**Heredity:** Those with a family history of fracture or osteoporosis are at an increased risk.

#### Early menopause/hysterectomy

**Build:** A small stature.

### Potentially modifiable

**Excess consumption of alcohol:** Alcohol intake greater than 3 units/day.

**Vitamin D deficiency:** Low circulating Vitamin D is common among the elderly world wide. Mild vitamin D deficiency is associated with increased parathyroid hormone (PTH) production. PTH increases bone resorption, leading to bone loss.

**Tobacco smoking:** It inhibits the activity of osteoblasts.

**Malnutrition:** Identified risk factors include low dietary calcium and/or phosphorus, magnesium, zinc, boron, iron, fluoride, copper, vitamins A, K, E, C and D.

**Under weight/inactive:** Bone remodeling occurs in response to physical stress, so physical inactivity

can lead to significant bone loss.

**Endurance training:** In female endurance athletes, large volumes of training can lead to decreased bone density and an increased risk of osteoporosis.

**Heavy metals:** A strong association between cadmium and lead with bone disease has been established.

**Proton pump inhibitors** (such as lansoprazole, esomeprazole, or omeprazole) that decrease stomach acid, are a risk for bone fractures if taken for two or more years, due to decreased absorption of calcium in the stomach.

## Medical disorders

Immobilization causes bone loss (following the 'use it or lose it rule).

Hypogonadal states can cause secondary osteoporosis. In females, the effect of hypogonadism is mediated by estrogen deficiency. It can appear as early menopause (<45years) or from prolonged premenopausal amenorrhea (>1year).

Endocrine disorders that can induce bone loss include Cushing's syndrome, hyperparathyroidism, hyperthyroidism, hypothyroidism, diabetes mellitus type 1 and 2.

Nutritional and gastrointestinal disorders that can predispose to osteoporosis include undiagnosed and untreated coeliac disease, Crohn's disease, ulcerative colitis, cystic fibrosis, surgery after gastrectomy. People with rheumatologic disorders such as rheumatoid arthritis, ankylosing spondylitis are at increased risk.

## Medication

**Steroid-induced osteoporosis (SIOP):** It arises due to the use of glucocorticoids. The synthetic glucocorticoid prescription drug prednisone is a main candidate after prolonged intake. Barbiturates, phenytoin and some other enzyme-inducing antiepileptics accelerate the metabolism of vitamin D.

**L-Thyroxine** over-replacement may contribute to osteoporosis relevant in subclinical hypothyroidism.

**Anticoagulants :** Long term use of heparin is associated with a decrease in bone density and warfarin

**Proton pump inhibitors** These drugs inhibit the production of stomach acid; this is thought to interfere with calcium absorption.

### Evolutionary

Age-related bone loss is common among humans due to exhibiting less dense bones than other primate species.

### Pathogenesis

The three main mechanisms by which osteoporosis develops are an inadequate peak bone mass, excessive bone resorption, and inadequate formation of new bone during remodeling. An interplay of these three mechanisms underlies the development of fragile bone tissue.

Osteoclasts degrade the bone matrix, while osteoblasts rebuild the bone matrix. Low bone mass density can occur when osteoclasts are degrading the bone matrix faster than the osteoblasts are rebuilding the bone.

Hormonal factors strongly determine the rate of bone resorption; lack of estrogen (e.g. as a result of menopause) increases bone resorption, as well as decreasing the deposition of new bone that normally takes place in weight-bearing bones.

Calcium metabolism plays a significant role in bone turn over, and deficiency of calcium and vitamin D leads to impaired bone deposition; in addition, the parathyroid glands react to low calcium levels by secreting parathyroid hormone (parathormone, PTH), which increases bone resorption to ensure sufficient calcium in the blood.

Cancellous bone in the ends of long bones and vertebrae is more active and subject to bone turnover and remodeling. The microarchitecture of bone is also disrupted. The weaker spicules break (microcracks), and are replaced by weaker bone. Common osteoporotic fracture sites, the wrist, the hip and the spine, have a relatively high trabecular bone and rely on the trabecular bone for strength, so the intense remodeling causes these areas to degenerate most when the remodeling is imbalanced.

### Diagnosis

Multiple osteoporotic wedge fractures are demonstrated on a lateral thoracolumbar spine X-ray. The diagnosis of osteoporosis can be made using conventional radiography and by measuring the bone mineral density (BMD). The most popular method of measuring BMD is dual-energy X-ray absorptiometry.

Conventional radiography is relatively insensitive to detection of early disease and requires a substantial amount of bone loss (about 30%) to be apparent on X-ray images.

### Dual-energy X-ray

Dual-energy X-ray absorptiometry (DXA) is considered the gold standard for the diagnosis of osteoporosis. Osteoporosis is diagnosed when the bone mineral density is less than or equal to 2.5 standard deviations below that of a young (30 – 40 year old, healthy adult women reference population). This is translated as a T-score. But because bone density decreases with age, more people become osteoporotic with increasing age. The World Health Organization has established the following diagnostic guidelines:

#### Category

T-score range

#### Normal

T-score = -1.0

#### Osteopenia

-2.5 < T-score < -1.0

#### Osteoporosis

T-score = -2.5

#### Severe osteoporosis

T-score = -2.5 with fragility fracture

The International Society for Clinical Densitometry for premenopausal women, Z-scores (comparison with age group rather than peak bone mass) rather than T-scores should be used, and the diagnosis of osteoporosis in such women also should not be made on the basis of densitometric criteria alone.

**Quantitative computed tomography** gives separate estimates of BMD for trabecular and cortical bone.

**Quantitative ultrasound** is small, no ionizing radiation is involved, measurements can be made quickly and easily, and the cost of the device is low.

### Screening

The U.S. Preventive Services Task Force (USPSTF) recommend that all women 65 years of age or older be screened by bone densitometry.

### Prevention

Prevention of osteoporosis includes a proper diet during childhood and efforts to avoid medications that cause the condition. Efforts to prevent broken bones in those with osteoporosis include a good diet, exercise and fall prevention. Lifestyle changes such as stopping smoking and not drinking alcohol may help. Studies of the benefits of supplementation with calcium and vitamin D are conflicting. Vitamin K deficiency is also a risk factor for osteoporotic fractures.

Physical exercise has a small benefit on bone density of post menopausal women. The chances of having a

fracture were also slightly reduced (absolute difference 4%).

### Management

**Lifestyle** Weight-bearing endurance exercises to strengthen muscles improve bone strength in those with osteoporosis.

**Bisphosphonates** are useful in decreasing the risk of future fractures in those who have already sustained a fracture due to osteoporosis. This benefit is present when taken for 3-4 years. Fracture risk reduction is between 25 and 70% depending on the bone involved. There are concerns of atypical femoral fractures and osteonecrosis of the jaw with long-term use. Examples are risedronate etidronate or alendronate.

**Fluoride supplementation** does not appear to be effective in postmenopausal osteoporosis.

**Teriparatide** (a recombinant parathyroid hormone) is effective in treatment of women with postmenopausal osteoporosis.

**Hormone replacement therapy**, while effective for osteoporosis, is only recommended in women who also have menopausal symptoms. Raloxifene is effective in decreasing vertebral fractures. Denosumab is also effective for preventing osteoporotic fractures. Calcitonin while once recommended is no longer due to the associated risk of cancer with its use and questionable effect on fracture risk.

### Prognosis

Although osteoporosis patients have an increased mortality rate due to the complications of fracture, it is rarely lethal. Vertebral fractures can lead to a severe chronic pain of neurogenic origin, severe hunch back (kyphosis). Osteoporotic fractures are associated with a reduced health-related quality of life. The condition is responsible for millions of fractures annually, mostly involving the lumbar vertebrae, hip, and wrist. Hip fractures are responsible for the most serious consequences of osteoporosis. The incidence of hip fractures increases each decade from the sixth through the ninth for both women and men for all populations.

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# Breast Feeding: The Best Feeding



Dr. Nutan Sharma  
Const. Obst. & Gynaecologist  
Alka Hospital

Breast feeding sounds simple and easy for women who stay at home and have only one motto to rear their kids, but in today's era of changing lifestyles, competition and modernism detailed understanding on this topic is must. Today's women want to be ahead of men, they want to capture every possible field & at the same time do not want to spoil their figure, hence forth a bit of discussion on this topic is worth.

## Advantages of breast milk

1. Breast milk has a higher carbohydrate content.
2. Breast milk contains bifidus factor – beneficial bacteria to help with the baby's immune system.
3. Bifidus factor discourages the growth of pathogenic organisms.
4. Breast milk in the first few days contains colostrum, which contains all the necessary immune factors, plus growth factors and a variety of vitamins and minerals.
5. Colostrum can fight and remove bacterial invaders in the intestinal tract and is good for the lungs, throat and intestines.

## Breast feeding helps the mother to

- ◆ Get her shape back sooner.
- ◆ Feed a hungry baby fast.
- ◆ Rest, when you nurse lying down.

## For the benefit of both

It is a special time to get to know each other & "bond". Like most mothers you want to give your baby the very best in life. Breast feeding is the natural way to feed your baby. Breast milk has everything your baby needs to grow strong and healthy.

## Frequently asked, questions about breast feeding.

### ❖ Will I make enough milk?

The secret of making enough milk is simple. The more your baby nurses, the more milk your body will make. If your breasts are emptied, they make more milk. When they stay full they stop making milk. The size of your breasts does not indicate how much milk you will make.

### ❖ Is there any special diet/food for breast feeding?

No, not really. A normal balanced diet is adequate. If you drink enough not to feel thirsty and eat enough to feel full, your milk will have everything your baby needs. You do not have to eat a special diet.

### ❖ Is it hard to breast feed? Is there any special technique?

Breast feeding is not hard to learn. There is no one right way to do it. Of course, it takes sometime getting used to at first, but with practice, breast feeding is easy. Good latching, bonding, positioning & sucking, helps your baby get the best. If required get advice and support of your doctor.

### ❖ Will breast feeding change my breasts?

When you breast feed, your breasts are about the same size as they are when you are pregnant. Some women think that breast feeding makes breasts sag, this is not true.

### ❖ Pregnancy makes some womans breast sag whether they breastfeed or not. Can I express breast milk?

Yes, you can express by hands or use a pump and store the milk for feeding later. Breast milk can be left at room temperature for up to 10 hrs, in the fridge for up to 24 hrs and in the freezer (-20°C) for a month.

### ❖ Will Breast feeding tie me down?

It will be easy to take your breast feed baby with you than their things, your milk will be ready no matter how long you are away from home. There are no formulas to mix and bottles to wash. If you need to leave your baby with someone, you can nurse before you leave and come back in 2 or 3 hours to nurse again or, you can leave behind a bottle of expressed milk.

### ❖ Are breastfeed babies spoiled?

Breast feeding is the ideal opportunity to get close to your baby. Babies need to know that they are not alone so that they can feel safe and loved. All babies learn to trust if they are picked up when they cry. You will get a very close feeling when you breastfeed. Babies are not spoiled by breastfeeding but are blessed.

### ❖ Can I breastfeed if I'm nervous?

Nursing will help you feel relaxed. Even if you get worried, sad or angry, these feelings will not change your breast milk.

### ❖ Does breast feeding hurt?

Breast feeding should not hurt. When your baby is nursing and getting milk, you just feel a tug. If you do get pain or sore something needs to change. You may need to change the technique of breastfeeding or consult your doctor if you have a sore or continuous discomfort.

### ❖ How often do I have to feed?

You should feed on demand (baby cries for a feed) and approximately every 2-4 hours.

### ❖ Special circumstances:

1. Twins-you can breastfeed both twins separately or simultaneously.
2. After a caesarean a delay is unavoidable and should not affect breast feeding. Initially baby is feed with lactogen and as soon as mother is comfortable breast feeding in initiated.
3. Premature/sick/nursery babies can be given breast milk by tube feeding.
4. For any sore breasts, cracked nipples or infection (mastitis) seek immediate medical attention.

I think this short discussion is sufficient for my readers to get a fair idea of breast feeding and its advantages, so we should promote breast feeding in our families, our surroundings and in our society too, so as to make this world a wonderful place for our new born and growing kids.

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# World Immunization Week

## 24<sup>th</sup> - 30<sup>th</sup> April 2018

### Vaccines for the Elderly: Current Use and Future Challenges

Age-related changes of the immune system contribute to increased incidence and severity of infections in the elderly. Vaccination is the most effective measure to prevent infections and vaccination recommendations in most countries include specific guidelines for the elderly. Vaccination against influenza and Streptococcus pneumoniae is usually recommended for persons with underlying diseases and for the elderly with heterogeneous age limits between = 50 years and = 65 years. Some countries also recommend vaccination against herpes zoster. Several vaccines are recommended for all adults, such as



## Protected Together

#VACCINESWORK

regular booster shots against tetanus/diphtheria/pertussis/polio, or for specific groups, e.g. vaccination against tick-borne encephalitis in endemic areas or travel vaccines. These are also relevant for the elderly. Most currently used vaccines are less immunogenic and effective in the elderly compared to younger adults. Potential strategies to improve their immunogenicity include higher antigen dose, alternative routes of administration, and the use of adjuvants, which were all implemented for influenza vaccines, and induce moderately higher antibody concentrations. Research on universal vaccines against influenza and S. pneumoniae is ongoing in order to overcome the limitations of the current strain-specific vaccines. Respiratory syncytial virus causes significant morbidity in the elderly. Novel vaccines against this and other pathogens, for instance bacterial nosocomial infections, have tremendous potential impact on health in old age and are intensively studied by many academic and commercial organizations. In addition to novel vaccine developments, it is crucial to increase awareness for the importance of vaccination beyond the pediatric setting, as vaccination coverage is still far from optimal for the older population.

[Ref.: Weinberger Immunity & Ageing (2018) 15:3]

पटक/गेट	कुन उमेरमा	कुन खोप	सुई लगाउने स्थान र माध्यम	कुन रोगबाट बचाउँछ
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२	६ हप्तामा	डि.पि.टी. हेप बी-हिव पोलियो पि. सि. जी. (पहिलो मात्रा)	• बायाँ तिराको मध्य बाहिरी भाग मासुमा • पोलियो मुसुमा • दया तिराको बीच बाहिरी भाग मासुमा	• न्यानूते रोग, लहरे खोकी, घनूटकार, हेपाटाइटिस-बी र हेमोफिलस इन्फ्लुइन्जा-बी • पोलियो • निमोनिया
३	१० हप्तामा	डि.पि.टी. हेप बी-हिव पोलियो पि. सि. जी. (दोस्रो मात्रा)	• बायाँ तिराको मध्य बाहिरी भाग मासुमा • पोलियो मुसुमा • दया तिराको बीच बाहिरी भाग मासुमा	• न्यानूते रोग, लहरे खोकी, घनूटकार, हेपाटाइटिस-बी र हेमोफिलस इन्फ्लुइन्जा-बी • पोलियो • निमोनिया
४	१४ हप्तामा	डि.पि.टी. हेप बी-हिव पोलियो आइ.पि.जी.	• बायाँ तिराको मध्य बाहिरी भाग मासुमा • पोलियो मुसुमा • दया तिराको बीच बाहिरी भाग मासुमा	• न्यानूते रोग, लहरे खोकी, घनूटकार, हेपाटाइटिस-बी र हेमोफिलस इन्फ्लुइन्जा-बी • पोलियो • पोलियो
५	५ महिनामा	पि.सि.जी. (दोस्रो मात्रा) दादुरा रुबेला (पहिलो मात्रा)	• दया तिराको बीच बाहिरी भाग मासुमा • दया पासुराको माथिल्लो भाग छाला र मासु बीच (Subcutaneous)	• निमोनिया • दादुरा र रुबेला
६	१२ महिनामा	जापानिज इन्सेफलाइटिस	• दया तिराको माथिल्लो बाहिरी भाग छाला र मासु बीच (Subcutaneous)	• जापानिज इन्सेफलाइटिस
७	१५ महिनामा	दादुरा रुबेला (दोस्रो मात्रा)	• दया पासुराको माथिल्लो भाग छाला र मासु बीच (Subcutaneous)	• दादुरा र रुबेला

सम्बन्धित: पहिले टि.डि. खोप लगाएको जर्जवतिले कविलमा एक महिनाको अन्तरमा २ पटक टि.डि. खोप लगाउने पर्दछ ।

**पूर्ण खोप लगाऔं, बालबालिकालाई रोगहरुबाट सुरक्षित बनाऔं ।**

Winner of **MEDITIME** 24<sup>th</sup> Issue Brain Teaser *Congratulations*

- Dr. Riju Manandhar**  
Cardiologist, Kathmandu
- Dr. Bikram Basnet**  
MBBS, Resunga Hospital, Tamghas
- Dr. Arbind Deo**  
Gastroenterologist, Biratnagar
- Dr. Ram Krishna Barakoti**  
MS Ortho, B & B Hospital
- Dr. Rajesh Lal Gurbacharya**  
Paediatrician, Kathmandu
- Dr. Navin Kumar Karn**  
MS Ortho, Biratnagar
- Dr. Rakhi Shah**  
Gynaecologist, Janakpur
- Dr. Rukshana Haque**  
Gynaecologist, Butwal



# 25<sup>th</sup> Edition of MEDITIME

## Members of MEDITIME Editorial Board



*From left in front row - Sabin Raj Shakya, Sudarshan Lal Shrestha, Amit Shrestha  
From left in back row - Kritika Shrestha, Mallika Gubhaju, Amrita Acharya and Sweta Rauniyar posing for a portrait  
Tuesday 13<sup>th</sup> Chaitra, 2074 at TIME Pharmaceuticals, Marketing and Liasion Office, Bakhundole.*

### Note of Thanks



*Dr. Arjun Dev Bhatta is a Senior Consultant Urologist associated with Medicare National Hospital & Research Center P. Ltd., Kathmandu Nepal.*

*We would like to thank Dr. Bhatta for his invaluable time and effort with highest number of articles contribution, which helped for the successful completion of our 25<sup>th</sup> edition of MEDITIME .*

*Thank you for sharing your knowledge, skills & experience with our hundreds of readers. We appreciate your greatness & we will definitely look forward for your support in future.*

# Antibiotic Resistance; Are We Prepared?



Dr. Purushottam Adhikari  
Intern, Gandaki Medical College

A 30 year old female admitted in a medical ward with a diagnosis of urinary tract infection came up with the urine culture and sensitivity report. The patient's condition was not satisfactorily improving on ceftriaxone. It was indeed unexpected to see the *E. coli* isolated from patients urine was resistant to most of the commonly used antibiotics in our settings except meropenam and gentamicin. There were no other options except shifting to the higher group of antibiotics. Luckily, those two were sensitive and the patient was discharged after completing a week dose of intravenous antibiotics.

It is not amazing to see patients in our outpatient departments landing up with a handful of antibiotics without resolving their disease. Sometimes they end up with taking multiple antibiotics even in self limiting viral infections.

Irrational use of antibiotics, use of inappropriate antibiotics and not completing the course of antibiotics are the major reasons for the increasing cases of antibiotic resistance in our settings.

Lack of proper guidelines in antibiotics prescription even in the hospitals are making the problem more complicated. Poor knowledge in the public regarding the antibiotic resistance and its hazardous outcome is another factor responsible for this outcome.

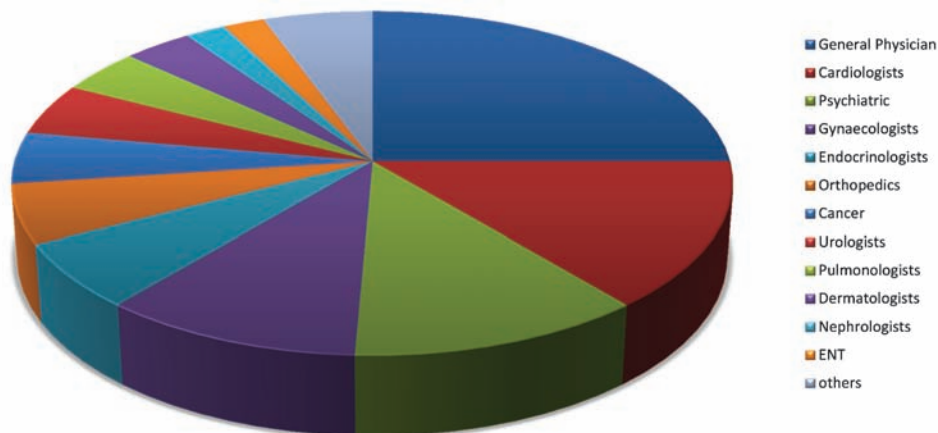
World Health Organization has declared antibiotic resistance as biggest threat to global health, food security and development today. The development of multi drug resistant tuberculosis, enteric fever, pneumonia and other hospital acquired infections are the biggest challenge to us in upcoming days. We may get to a phase where the antibiotics are ineffective to even minor infections.

The best measure to combat against the antibiotic resistance is the rational use of antibiotics. The concerned authorities should act promptly to prevent the haphazard dispense of antibiotics by means of pharmacies or medical shops without prescription of registered medical practitioners. There

should be guidelines for the prescription of antibiotics in every health care setting and every medical professional should be bound by the guidelines. The over prescription of antibiotics should be strongly discouraged. Pharmacists and even doctors should counsel the patients regarding the complete course of antibiotics to be taken. Similarly the government and concerned authorities should promote the research to find out local antibiotics sensitivity patterns for future outcomes and preparedness. Last but not the least; the public should be made aware about the antibiotic resistance and dreadful situations we are facing in the near future if we are not taking proper measures to prevent it.

It's already getting late to act against the emerging antibiotics resistance. Indeed, it's the duty of all health care professional and we stakeholders to fight against this global threat. Let's put hands on hands and collaborate together to tackle this risk. Our small and single effort may also help to make the life of our future generation much easier.

MEDITIME is a quarterly Medical Bulletin of TIME Pharmaceuticals. The first edition of MEDITIME was published on January, 2012. The completion of 25<sup>th</sup> edition would not have been possible without the support from our medical fraternity. We would like to take this opportunity to thank all of our article contributors, our readers and everyone related to this medical bulletin for making MEDITIME a success. During these 6 years, we collected and published a total of 144 articles.



**Congratulations to our highest MEDITIME responders.  
Keep up the good work. Best of Luck**



Meghnath Poudel  
TIME Division  
Pokhara HQ



Suman K.C.  
GENESIS Division  
Kathmandu HQ



Bihyan Tamang  
NEXUS Division  
Kathmandu HQ



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Lahan HQ

# अस्पतालजन्य फोहर व्यवस्थापनः चुनौति र समाधानका उपायहरू



शहर भित्रका अस्पताल, क्लिनिक, फामेसी तथा डेन्टल क्लिनिक एवम् साना तिना प्रयोगशाला समेतबाट रोग सन् सक्ने संक्रमित फोहर देखि सामान्य गल्न सक्ने फोहर दैनिकरूपमा निक्लिने भएकोले यस्को विसर्जन निकै चुनौतिपूर्ण छ। चुनौतिका बावजुद पनि यस्ता फोहरजन्य वस्तुको आधुनिक प्रविधिबाट गरिने व्यवस्थापन त्यति नै जरुरी पनि छ।

राजनैतिक अस्थिरताका बावजुद पनि जनताको आफ्नो प्रयासमा देशका विभिन्न शहरहरू विकसित, सफा र सुन्दर सहरको रूपमा विस्तार भईरहेका छन्। नगरहरूमा बढ्दो जनसंख्या, जनचेतनामा विकास, उपचारका आधुनिक प्रविधीको खोजीका कारणले ती क्षेत्रहरूमा स्वास्थ्य संस्थाहरूको संख्या बढ्दो छ, निजी लगानीमा संचालित स्वास्थ्य संस्थाहरू धेरै बढेका छन्। तैपनि यस्ता क्षेत्रहरूमा रहेका स्वास्थ्य संस्थाहरू सांख्यिक अनुपातमा कम रहेको छ। खास गरी देशका धेरै नगरपालिकामा विगत केही वर्षमा जनघनत्व बढ्दै गएको एक तथ्याङ्कले देखाउँछ। बढ्दो जनसंख्याको माग बमोजिम नै देशका शहरहरूमा अस्पताल र क्लिनिकको संख्या दिनानुदिन बढ्दै गईरहेको छ। शहर भित्र फामेसी तथा डेन्टल क्लिनिक एवम् साना तिना प्रयोगशाला समेत बढी रहेको छ।

अस्पतालको हरेक बेडबाट दैनिक ८५० ग्राम फोहर निस्कने एक तथ्याङ्कले देखाउँछ। यसरी निस्कने फोहरमा संक्रमित फोहरको मात्रा पनि उल्लेखनीय हुने भएकोले फोहरको बर्गीकरण र बर्गीकृत फोहरहरूलाई संक्रमणरहित बनाई विसर्जन गर्नु आधुनिक तरिकाबाट मात्र सम्भव रहेको देखिन्छ। पुराना प्रविधीहरू वातावरण प्रतिकूल र मानवीय जीवन जोखिममा पार्ने खालका भएकोले नयाँ प्रविधी मार्फत मात्र फोहर व्यवस्थापन गर्नु आम जनताको हीतमा हुनेछ।

साविकमा रहेको स्वास्थ्य उपचारका फोहर व्यवस्थापन प्रभावकारी नभएको र वातावरण प्रदूषण समेत हुने गरेको यथार्थ जगजाहेर नै छ। विरामी तथा अस्पतालमा रहेका रोगजन्य फोहरको उचित बर्गीकरण तथा सो फोहरको उचित विसर्जन गर्नु दमकवासी नगरपालिका कर्मचारी सबैको लागि चुनौति बन्दै गएको अवस्थामा यसको उचित व्यवस्थापनको लागि सबैले आ-आफ्नो तहबाट सहयोग गर्नु निकै जरुरी छ।

## अस्पतालीय फोहरजन्य वस्तुको उचित व्यवस्थापन गर्नु पर्ने कारण

१. बढ्दो जनसंख्या र आवसहरू र त्यहाँबाट निस्कने संक्रमित फोहर पनि दिनानुदिन बढ्नु।
२. वर्तमान फोहर व्यवस्थापन प्रभावकारी हुन नसक्नु।

३. बढ्दो अस्पताल, क्लिनिक, फामेसी, प्रयोगशालाबाट दैनिक जोखिमपूर्ण संक्रमित फोहर निस्कनु।
४. घरमै उपचारका क्रममा प्रयोगहुने विभिन्न जोखिमपूर्ण फोहरको समेत उत्पादन हुनु।
५. हाल सम्म अधिकांश अस्पतालहरूको आफ्नै फोहर व्यवस्थापनको ठोस वैज्ञानिक पद्धति नहुनु।
६. हाल विभिन्न नगरहरूद्वारा संचालनमा रहेको फोहरमैला व्यवस्थापनमा स्वास्थ्य संस्थाजन्य जोखिमपूर्ण तथा संक्रमित फोहर व्यवस्थापनको उपयुक्त प्रविधि नहुनु।
७. शहरहरूलाई आधुनिक तथा प्रविधिक बनाउनु जरुरी रहेको।

**साविकमा भईरहेका फोहर व्यवस्थापनको प्रकृया:** विभिन्न शहर भित्रका विरामीको उपचारमा संलग्न विभिन्न अस्पताल, क्लिनिक लगायतका संस्थाहरू बाट दैनिक रूपमा निस्कने संक्रमित वा संक्रमणरहित फोहरहरूको व्यवस्थापन सदैव निकै चुनौतिपूर्ण रहने गर्दछ। विगतका दिनहरूमा गरिने फोहर व्यवस्थापन प्रक्रिया वा हाल भई रहेका फोहर व्यवस्थापन प्रक्रिया प्रभावकारी नभएको र त्यसबाट संक्रमण बढ्ने खतरा रहेको बुझिएको छ। फोहरको बर्गीकरण विना नै फोहर फाल्दा जोखिमपूर्ण फोहरका कारण मानव जीवन खतरामा रहने गर्दछ।

हाल निम्न प्रकारले स्वास्थ्यसेवा प्रदायक र नगरहरूले अस्पताल जन्य फोहर व्यवस्थापन गरिरहेको बुझिएको छ। यस्तो व्यवस्था ग्रामीणइलाकामा रहेको पाइन्छ।

फोहरको बर्गीकरण विना नै घर घर वा बजारबाट फोहर संकलन गरी डम्पिङ्ग साईटमा विस्थापन गरिने सेनिटरी ल्याण्ड फिल्ड निकै नै प्रचलित फोहर व्यवस्थापनको उपाय हो। यसरी फोहर व्यवस्थापन गर्दा फोहरको विस्थापन गर्दा खुल्ला स्थानमा गरिने भएकोले यो तरिका निकै जोखिमपूर्ण हुन्छ। यसरी फोहर विस्थापन गर्दा फोहर राख्ने उचित कन्टेनरको प्रयोग विना नै फोहर राख्ने गरिन्छ जसको दुर्गन्धले सरुवारोग फैलन सक्ने खतरा धेरै नै रहन्छ। अर्को तरिका जल्ने योग्य फोहरहरूलाई एकत्रित गरि जलाईने यानिकी इन्सिनेरेशन प्रविधि पनि केही अस्पतालमा प्रयोगमा ल्याइएको छ। संक्रमित फोहरलाई निर्मलीकरण गरी पुनः प्रयोगमा ल्याउने त्यस पछि विसर्जन गर्ने स्मल स्केल अटोक्लेभिङ्ग अस्पतालमा सिमित छ भने गल्न सक्ने फोहरहरूलाई एकत्रित गरि गाड्ने तरिका, जसलाई बरियल भनिन्छ, केही अस्पतालजन्य फोहर विसर्जनमा प्रयोग गरेको समेत पाईएको छ।



डा. मुकेशकुमार साह  
मे.सु., नेशनल हस्पिटल, दमक

## स्वास्थ्य संस्थाका फोहर व्यवस्थापन गर्न सकिने तरिकाहरू

अस्पतालबाट निस्कने फोहरहरूको व्यवस्थापन का धेरै तरिका छन् तर प्रभावकारी तरिका के हो र कुन तरिकाबाट वातावरणमा कम प्रभाव पार्छ भन्ने विषय आजको चासोको विषय हो। धेरै तरिका भए पनि अस्पतालजन्य फोहरको व्यवस्थापनका लागि फोहरको बर्गीकरण र बर्गीकृत फोहरहरूको फरक फरक तरिकाबाट व्यवस्थापन गर्नु आवश्यक हुन्छ। यी मध्ये आधुनिक प्रविधिमा अटोक्लेभको ठूला प्लान्टको जडान र एककृतरूपमा फोहरको व्यवस्थापन नै उचित हुने वैज्ञानिक पद्धतिहरूमा बुझिएको छ।

१. बायोलोजिकल प्रोसेडियोर
२. अटोक्लेभ
३. केमिकल डिस्इन्फेक्सन
४. सेप्टिक भाउल्ट
५. बरियल
६. इन्सिनेरेशन
७. सेनिटरी ल्याण्ड फिल्ड
८. पुनः प्रयोग

उपरोक्त पद्धतिमध्ये संक्रमण जन्य फोहरको व्यवस्थापन तथा विसर्जनकोलागि बायोलोजिकल प्रोसेडियोर उपयुक्त र वातावरणमा कम प्रभाव पार्ने भएता पनि धेरै फोहर व्यवस्थापनमा प्रभावकारी हुन सक्दैन। पछिल्ला दिनहरूमा धेरै फोहर व्यवस्थापनका लागि अटोक्लेभलाई उपयुक्त प्रविधिकोरूपमा लिईन्छ। विश्वभर अटोक्लेभको प्रयोगबाट नै अस्पतालजन्य फोहरको व्यवस्थापन गर्ने गरिन्छ। अस्पताल भित्र पनि अटोक्लेभको माध्यमबाट अपरेशनमा प्रयोग हुने केही वस्तु तथा सरसमान संक्रमण रहित बनाउने गरिन्छ।

ठूला-ठूला शहरमा आधुनिक अटोक्लेभ मेसिनको प्रयोग गरिदै आएकोले हाम्रो देशमा पनि फोहरलाई संक्रमण रहित बनाई विसर्जन गर्न अटोक्लेभको प्रयोग उपयुक्त हुने देखिन्छ। केमिकलको प्रयोग निकै महँगो पर्ने भएकोले यसको प्रयोग समेत त्यति उचित नहुने देखिन्छ।

## जनताको चासो :

हुनतः फोहर व्यवस्थापन आफैमा निकै चुनौतिपूर्ण छ। भने जस्तो सहजरूपमा फोहर व्यवस्थापनको आधुनिक पद्धति भित्र्याउनु सहज पनि छैन र

त्यसको संचालन कठिनाईपूर्ण हुने देखिन्छ । हाल सम्म नगरहरुमामात्र फोहर व्यवस्थापनको संजाल तयार गरिएको पाईन्छ । कतै नगरपालिका आफै त कतै प्राईभेट पार्टनरसीपको अवधारणामा स्थापित संयन्त्र त कतै ठेक्कामा लिएका कम्पनीहरु मार्फत । ग्रामीण इलाकामा भने यस्तो प्रविधिको विकास भई सकेको छैन । फोहर व्यवस्थापनको पद्धति वातावरणमैत्री नरहेको धेरै नगरवासीहरुको गुनासो छ । संक्रमित फोहरलाई संक्रमणरहित नबनाई खुल्लारूपमा गरिने फोहर व्यवस्थापनले वातावरणमा प्रतिकूल असर पारिरहेको र नगरवासी रोगको सिकार हुने गरेको गुनासो समय समयमा बुद्धिजीवीहरुबाट समेत आउने गरेको छ ।

नगरपालिकाको प्रयास सराहनीय भएता पनि उपयुक्त प्रविधिको प्रयोग गर्न नसक्नु नगरवासीको स्वस्थको लागि प्रतिकूल हुने भएकोले अत्याधुनिक प्रविधि भित्र्याउनु आजको आवश्यकता रहेको छ ।

अन्तमा, साविकमा रहेको स्वास्थ्योपचारका फोहर व्यवस्थापन प्रभावकारी नभएको र वातावरण प्रदुषण समेत हुने विषयलाई आत्मसात गरी विरामी तथा अस्पतालमा रहेका रोगजन्य फोहरको उचित बर्गीकरण तथा सो फोहरको उचित विसर्जन गर्नु अस्पताल, सम्बन्धित नगरपालिका, स्थानीयवासी सबैले आ-आफ्नो जिम्मेवारी सम्भन्नु जरुरी छ । यसको उचित व्यवस्थापनको लागि प्राईभेट पब्लिक पार्टनरशीको अवधारणामा शहर नजिकै आधुनिक वैज्ञानिक प्रविधि सहितको फोहर व्यवस्थापन तथा अस्पतालजन्य संक्रमित फोहर व्यवस्थापनको लागि अटोक्लेभ सहितको निर्मलीकरण र विसर्जन गर्ने प्लान्ट हरेक नगरमा स्थापना गर्नु अत्यन्त आवश्यक छ । यस अवधारणबाट अगाडी बढेमा सरकारले कम लगानीमा

फोहर व्यवस्थापन गर्न सक्ने र पुनः प्रयोगमा ल्याउन सक्ने बस्तुहरुको पुनः प्रयोग गर्न सक्ने समेत भएको फाइदा हुने देखिन्छ । सरकारको ध्यान यस विषयमा केन्द्रीत हुनु पनि जरुरी छ । यसरी फोहर व्यवस्थापन गर्दा सम्बन्धित निकायहरुले शहरमा अनुमानित जनसंख्या, अस्पताल तथा अस्पतालमा रहेका बेडको संख्या तथा सम्भावित विरामी संख्या, प्रति विरामी उत्पादन हुने अस्पताल जन्य फोहर, संक्रमित फोहरको अनुपात तथा फोहरहरुको बर्गीकरण अनि त्यस पछि गरिने वैज्ञानिक पद्धति सहितको निर्मलीकरण अनि विसर्जन गर्न उचित व्यवस्थापन गर्नु जरुरी छ । अनि मात्र नगरहरुको फोहर व्यवस्थापन प्रभावकारी हुनेछ ।

## Break Down The Problem of Resistance



# Lizolid

Linezolid 600mg Tablets

### साधारण फोहरहरु (गल्ले)

प्रांगारिक मल बनाउन सकिने फोहरहरु :  
फ्याकिने खानेकुरा, फलफूलका बोका, सागसब्जी आदि ।



### हानिकारक फोहरहरु (जलाउन मिल्ने र धारिलो)

प्रयोग गरिसकेका गज, कपास, मलम पट्टी आदि ।  
प्रयोग गरिसकेका सुइ, ब्लेड आदि ।

### साधारण फोहरहरु (नगल्ले)

पुनः प्रयोग गर्न सकिने फोहरहरु : कागज, प्लाष्टिक, नफुटेको सिसी, स्लाइनका बोतल, धातु, कपडा, रबर आदि ।



### हानिकारक फोहरहरु (जलाउन नहुने)

विरामीको सम्पर्कमा आएका पन्जा, सिरिन्ज, रगतका प्याकेट आदि ।

Unicef, Nepal Red Cross Society, TIME Pharmaceuticals Pvt. Ltd., World Health Organization

## LOGO GAME



Lucky winner will Get Surprise Gift From TIME Pharmaceuticals



(A)



(B)



(C)



(D)



(E)

### Match the logo with their name

- |  |     |                                     |     |
|--|-----|-------------------------------------|-----|
| 1. Nepal Society of Nephrology           | ( ) | 2. America Nepal Medical Foundation | ( ) |
| 3. World Health Organisation             | ( ) | 4. Institute of Medicine            | ( ) |
| 5. Nepal Medical Association             | ( ) | 6. Cardiac Society of Nepal         | ( ) |
| 7. Society of Internal Medicine of Nepal | ( ) | 8. Nepal Red Cross Society          | ( ) |
| 9. Unicef                                | ( ) | 10. TIME Pharmaceuticals Pvt. Ltd.  | ( ) |

# Winner Pictures



Dr. Disuja Shakya



Dr. Narmaya Thapa



Dr. Suresh Thapaliya



Dr. Sandhya C. Acharya



Dr. Amrit K.C.



Dr. Abhinash Chand



Dr. Anoop K. Gupta



Dr. Rajan Pandey



Dr. Y.B. Rokka



Dr. T.N. Karna

TIME Pharmaceuticals (P) Ltd. welcomes your comments/suggestions/inputs for coming issue of this bulletin.

Last date of "Logo Game" answers Submission : 15<sup>th</sup> Ashad 2075 (29<sup>th</sup> June 2018)

## RESPONSE FORM

Name : \_\_\_\_\_

Speciality : \_\_\_\_\_

Contact No. : \_\_\_\_\_

Birthday : \_\_\_\_\_ Anniversary Day: \_\_\_\_\_

Comments : \_\_\_\_\_

Clinical Address : \_\_\_\_\_

Email Address : \_\_\_\_\_

Please send this form to:

### TIME PHARMACEUTICALS

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E-mail: marketing@timepharma.com, Website: www.timepharma.com

# MOMENTS IN TIME



Participation in  
ORTHOCON 2018



Participation in  
SODVELONCON 2018



With Dr. M.K. Piya during  
Participation in NCHCON 2018



Participation in  
NCHCON 2018



Participation in  
SIMON 2018



With Dr. Deepak Sigdel during  
Participation in SIMON 2018



Achievers Departing for  
Dubai Trip, 2018



Achievers Enjoying  
Dubai Trip, 2018

नव वर्ष  
२०७५ को  
हार्दिक मंगलमय  
शुभकामना



for more details, please visit [www.timepharma.com](http://www.timepharma.com)

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