United Hospital Quarterly Newsletter

# reflection

Issue-11 | Quarter-3, 2015

## Editor's Note

*This quarter ended with a wonderful news in September, when Mr Faridur Rahman Khan, the MD of United Hospital declared the formation of Workers Profit Participation Fund for hospital staff, benefiting a total of 1,368 staff of United Hospital. This quarter also had our Foundation Anniversary on 24 August, the day when United Hospital stepped into its 10th year of operation. The day was commemorated by providing free health check up from a booth in hospital lobby, in addition special prayers were offered that day. This edition further features unique surgeries and interesting cases of United Hospital; that makes us more & more confident on the service excellence that we are providing for the community.*

## United Hospital Introduces Workers Profit Participation Fund

The Board of Directors of United Hospital in its meeting on 6 May 2015 chaired by its Chairman, Mr Hasan Mahmood Raja, decided to set up the Workers Profit Participation Fund. A four member committee was formed to manage the fund in accordance to the regulatory requirement.

Mr Faridur Rahman Khan, Managing Director of United Hospital formerly announced the news to the hospital staff on 21 September 2015 during a brief ceremony where cheques were distributed to some of the staff. The function was attended by doctors, nurses and all caregivers and general staff. Total of 1,368 hospital staff were recipients of this fund.

This is indeed a welcome news for our hospital staff who will be further motivated to dedicate themselves for the betterment of the hospital thus increasing the quality of services.

## Stepping Into 10th Year


On 24 August, United Hospital completed its ninth year of service. Over the years, doctors, nurses, other health caregivers and general staff of the hospital have strived to provide the much needed quality and appropriate treatment and service to its patients. Each individual has contributed in realising the dream of some prominent physicians of our country who first conceived the idea, way back in 1986, to establish a private hospital to provide world class health care facility to the people of Bangladesh.

United Hospital has now created a niche for itself in the field of healthcare in Bangladesh and it has been possible only through the confidence that our patients have placed on us. During our journey several departments have made a name for themselves such as Cardiology, Cardiac Surgery, Nephrology, Neurosurgery, Nuclear Medicine, Oncology, General Surgery and also our country wide ambulance service along with 24/7 Emergency Service for people who need immediate attention and care. Seminars, workshops, training etc are held on a regular basis as part of Continuous Medical Education to enhance the skill and expertise of our doctors and nurses. In addition to facilitating Masters course in Cardiology and Cardiac Surgery, works done by doctors in many of the departments are recognised by BCPS as part of their FCPS training. Further the United College of Nursing was established in 2011 to provide graduate level education to nurses where more than 200 students are currently enrolled.

United Hospital observed its founding day solemnly by providing free health checkup and advice to the people visiting the hospital on that day. In addition Quran Khatam was held in the morning and special prayers were offered after Asr prayers and Allah's help & blessings were sought to enable the staff to continue to serve patients coming to the hospital.

# Cancer and Mental Impact

***Anika Humaira***

Nowadays the rate of cancer is increasing to an alarming rate. When a patient is diagnosed with cancer, it is so traumatic that it totally changes life. With the progress of medical science, cancer treatment is more effective and prognosis of cure is better than before. But a question often arises in the patient's and caregiver's mind - 'will it be cured?' or 'will it recur?' These questions create serious anxiety and depression amongst patients and their family members.

In the last three months, around 150 patients availed counseling service in United Hospital after being diagnosed with cancer or having recurring cancer. Among them most of the patients were identified having anxiety and depression in moderate levels which led to sleeping disturbances and adjustment problems in the family. The age group of 60-80 years is more likely to face depression. Cancer and developmental milestones trigger depression. In the middle-aged group, depression settles in with moderate anxiety.

Various kinds of negative automatic thoughts (NATs) surround them like thoughts of uncertain situations ahead. The reality is that a large number of patients pre-occupied with cancer and recovery are less concerned about increasing their quality of life. They feel their days are numbered and are just counting the days left; patients who continue counseling sessions to heal depression and anxiety are benefited. Counseling sessions involve family gatherings, hobbies, getting back to work and so on. This change their thinking process and enable them to handle the cancer easily. They were also counseled to fight against the side-effects of the treatment to remain mentally stable.

This type of management which provides moral support, helps patients to get back on their feet and resume normal life to survive positively with cancer.

# Influence of Jaw Tracking in Intensity Modulated and Volumetric Modulated Arc Radiotherapy in Head and Neck Cancers – A Dosimetric Study

***Karthick Raj Mani, Md Anisuzzman Bhuiyan, Anamul Haque, Md Faruk Hossain, Dr Rashid Un Nabi, Dr Ashim Kumar Sengupta***

**Objective:** To study the dosimetric advantage of the jaw tracking technique in intensity modulated radiotherapy (IMRT) and volumetric modulated arc radiotherapy (VMAT) in head and neck cancers.

We retrospectively selected ten previously treated head and neck cancer patients (stage T1/T2, N0, M0) in this study. All the patients were planned for IMRT and VMAT with simultaneous integrated boost (SIB) technique to deliver a differential dose per fraction to the gross and microscopic tumour volumes using a single plan with and without jaw tracking. We intended to deliver 70Gy in 35 fractions to the high risk volume and 56Gy in 35 fractions to the low risk volumes. All the critical structures were delineated which includes both parotids, spinal cord and both sub-mandibular glands. Eclipse treatment planning system, version 11.0 (Varian Medical Systems, Palo Alto, CA), was used in this study. All the plans were planned with 6MV photons using Millennium 120 MLC. Both IMRT and VMAT were planned with and without jaw tracking by keeping the same constraints and priorities for the target volumes and critical structures for a particular patient. Plans were normalized at the target mean of the high risk volumes. All the plans were accepted with the criteria of parotid glands mean dose <25Gy and spinal cord dose maximum point dose <45Gy without compromising the target volumes. Target Conformity, dose to the critical structures and low dose volumes were recorded for IMRT and VMAT plans with and without jaw tracking for all the patients.

**IMRT Jaw Tracking Advantage in Low Dose Volumes**

| Body | IMRT without Jaw Tracking | IMRT with Jaw Tracking | Mean % Variation |
|---|---|---|---|
| V5 (%) | 32.35 ± 9.9 | 31.10 ± 9.1 | 4.01% |
| V10 (%) | 28.41 ± 8.7 | 27.27 ± 8.3 | 3.85% |
| V20 (%) | 22.01 ± 5.7 | 21.38 ± 6.2 | 2.87% |
| V30 (%) | 16.95 ± 5.7 | 16.65 ± 5.6 | 1.81% |

**VMAT Jaw Tracking Advantage in Low Dose Volumes**

| Body | VMAT without Jaw Tracking | VMAT with Jaw Tracking | Mean % Variation |
|---|---|---|---|
| V5 (%) | 30.62 ± 9.7 | 29.64 ± 9.3 | 2.62% |
| V10 (%) | 25.19 ± 8.2 | 24.98 ± 8.1 | 1.85% |
| V20 (%) | 20.82 ± 6.1 | 20.73 ± 6.0 | 1.57% |
| V30 (%) | 16.54 ± 5.2 | 16.25 ± 5.1 | 0.65% |

**Critical Organ Dose Comparison (IMRT Static Jaw vs Jaw Tracking)**

| Critical Organ | IMRT (SJ) | IMRT (JT) |
|---|---|---|
| Right Parotid | 24.11 ± 4.9 | 23.06 ± 4.02 |
| Left Parotid | 24.50 ± 4.1 | 23.02 ± 3.46 |
| Spinal Cord | 16.22 ± 5.1 | 16.02 ±4.9 |

Jaw tracking resulted in decreased dose to critical structures in both IMRT and VMAT plans. But significant dose reductions were observed for critical structure in the VMAT plans compared to the IMRT plans. Gamma analysis showed greater than 97% of pixels were passed with 3mm distance and 3% dose for all the plans. The significant reduction of the dose to critical structures with VMAT plans is because of relatively less monitor units compared to the IMRT plans.

# Workshop on IVUS in United Hospital

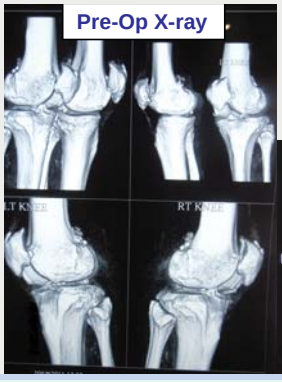
On 22 August 2015, a workshop on Intravascular Ultrasound (IVUS) was organized by the Cardiology Department of United Hospital Limited. Dr Junko Honye, MD, PhD Director, Cardiovascular Center, Kikuna Memorial Hospital, Kanagawa, Japan, an Intravascular Ultrasound (IVUS) Specialist was present and she shared her knowledge of IVUS with our Cardiologists.

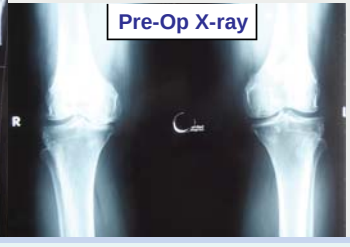
She visited the Cardiology Department and attended a short meeting with Chief Consultant & Cardiologist Dr NAM Momenuzzaman and Cardiology Consultants Dr Fatema Begum & Dr Kaisar Nasrullah Khan. Then she successfully performed two Coronary PCIs with the support of IVUS and Rota with Dr NAM Momenuzzaman at the United Hospital Cath-Lab. Dr Fatema Begum & Dr Kaisar Nasrullah Khan along with other Cardiology Specialists were also present there. A Scientific Seminar on "How To Use IVUS In Daily Practice" was arranged later in United Hospital where Dr Junko Honye was the speaker.

# Total Knee Replacement

***Dr Aminul Hassan, Dr Masum Billah***

A 70 year old lady was admitted in United Hospital with complaints of severe pain and difficulty in walking and bending both knee joints for previous four years. Examination revealed swelling of her right knee joint and tenderness in both knee joints but more in the right knee. Bilateral patella-femoral crepitations were present. The range of movement of both knee joints was restricted (0-70) and painful. She could walk only a few steps with the help of a walking stick. She was a known case of hypertension and Hypothyroidism and was on medication for both conditions.

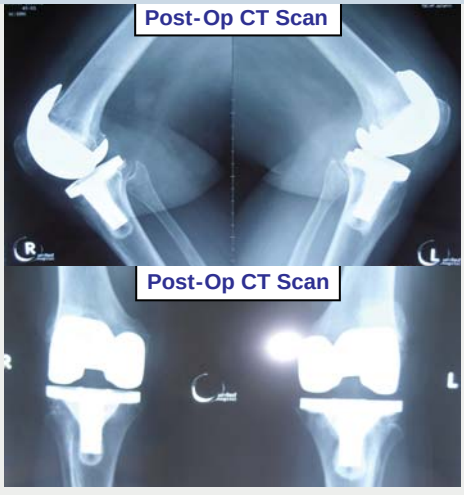



X-Ray of both the knee joints revealed osteophytic lipping of the articular margins with spiking of tibial spine and intra-articular loose bodies. Joint space was reduced in medial compartment in both the knees but more in the right knee. With subchondral sclerosis (Advanced Osteoarthritis of both knee joints), other vital parameters were within normal limit.

After correct evaluation she underwent total knee replacement of her right knee. During her post-op hospital stay, she was given physiotherapy under direct supervision of the surgeon and physiotherapist to improve muscle power and range of motion and gradually she achieved knee motion (0-120) without pain.

After 6 months of right knee joint replacement, she underwent total knee replacement of the left knee. Once again with the help of physiotherapy and exercise, she achieved pain free movement of the left knee – about 0 to 110. She maintained regular follow up. Total knee replacement significantly reduces knee pain and allows adequate pain free knee movements and enables a person to execute the functional requirements of daily life and improve the quality of life. It also significantly reduces he need for pain medications.




# COMMANDO

***Prof Zillur Rahman***

COMMANDO - **COM**bined **MA**ndibulectomy and **N**eck **D**issection **O**peration is a complicated surgery for 1st degree advanced malignancy of oral cavity. This operation was done in United Hospital on 21 July 2015.

It comprises of mandibulectomy (removal of all or part of the mandible/jawbone), glossectomy (total removal of the tongue), oropharyngeal resection and neck dissection.

This surgery is performed for the treatment of cancer in the oral cavity or its parts: mandible, tongue, tonsil, retromolar area with or without involvement of lymph node of neck.

A 60 year old lady came with complaints of ulceration on the right side of her oral cavity, difficulty in swallowing, speech difficulty and sometimes bleeding in oral cavity. She was admitted in United Hospital on 21 July 2015 as a diagnosed case of CA Tongue, involving the right half of tongue with extension of the floor of the mouth, right half of mandible with submandibular gland and cervical lymph node (right). She also had diabetes mellitus and hypertension.

Pre-operative tracheostomy was done and right sided extended submandibular lip splitting incision was made. Most part of the right half of mandible, right half of tongue, part of the floor of the mouth and right sided neck dissection was done (Level 1, 2, 3).

The wound was reconstructed locally & it was healed in 7 days. The patient was orally fed from the 8th post-operative day and released from hospital on the 10th post-operative day. After follow-up and 15 days rest, the patient could take food orally & the external deformity was minimal at the face.

# Angioplasty: A Revolution in the Therapy of Peripheral Arterial Disease

***Dr Quazi Md Anisujjaman***

Peripheral Arterial Disease (PAD) comprises of vascular diseases caused primarily by atherosclerosis, thromboembolic and pathophysiological processes that alter the normal structure and function of the aorta, its visceral arterial branches and the arteries of the upper and lower extremities. The incidence of PAD is very high and affects 4-12% of people aged 55 to 70 years and 15-20% of people over 70 years. The frequency of PAD is strongly age-related, rising steeply after 50 years of age. Patients with PAD can present with a myriad of symptoms or can remain asymptomatic despite being advanced in disease.

PAD is a powerful independent predictor of coronary artery disease and cerebrovascular disease. Risk factors for PAD are smoking, diabetes mellitus, hypertension, hyperlipidaemia, physical inactivity and obesity. In the last two decades, significant advances have been made in the treatment of PAD especially involving the lower extremities. Treatment of lower extremity PAD includes medical therapy with risk factor modifications, Percutaneous Transluminal Angioplasty (PTA) and surgery.

Angioplasty is an endovascular procedure that uses guide wires, catheters, balloon and stents to treat stenosis or occlusions of arteries. It was first performed by a dedicated Radiologist, Charles Dotter about 50 years ago. Initially the medical community did not really accept the new method. But it was also a matter of fact that the initial "primitive" materials made the endovascular treatment quite challenging and risky. Many years later new materials such as new guide wires, low profile catheters and balloons were developed. These new materials made endovascular procedures and angioplasty safe and effective.

Nowadays Angioplasty is a first line treatment for patients with peripheral arterial disease. Stenotic lesions in the arteries of the leg can be treated with balloon dilatation and stenting. After the treatment, the patient can return to normal activity next day. That makes angioplasty a cost-effective therapy. The procedure is performed under local anesthesia. There is no need for general anesthesia. This is of great importance for patients with severe diseases like chronic obstructive pulmonary disease or coronary disease who are high risk groups for receiving general anesthesia. Diabetic patients with peripheral arteriopathy and intermittent claudication or ulceration are a special group that benefits from the procedure.

Angioplasty is also applied in many other diseases. Carotid lesions that result in strokes with high mortality and disability rates can be treated with balloons and stents. Stenotic lesions of the upper extremities or the subclavian arteries can be safely and effectively treated by Angioplasty. Angioplasty has also been successfully applied as a safe and effective treatment of mesenteric ischemia and other arterial diseases. New equipment and techniques like rotational 3D angiography and intravascular ultrasound (IVUS) in combination with dedicated Interventional Cardiologists further increase the effectiveness and safety of Angioplasty and also expands its application.

# Vitamin D Deficiency And Its Clinical Effects

***Dr Md Redwanul Huq Masum, Dr Sohely Nazneen Eva, Prof Brig Gen (Retd) Zahid Mahmud***

Vitamin D is one of the most useful nutritional tools for improving overall health. This vitamin is unique because cholecalciferol (Vitamin $D_3$) is a vitamin derived from 7-dehydrocholesterol in the skin. However, Vitamin $D_3$ acquires hormone-like actions when cholecalciferol (Vitamin $D_3$) is converted to 1, 25-dihydroxyvitamin $D_3$ (Calcitriol) by the liver and kidneys. As a hormone, Calcitriol controls phosphorus, calcium, bone metabolism and neuromuscular function. Vitamin $D_3$ is the only vitamin the body can manufacture from sunlight (UVB). Dietary sources of Vitamin D are fish, fish liver oil, egg yolk etc.

Results of Vit-$D_3$ concentration in our Pathology Laboratory over the last 6 months (from 1/3/2015 – 30/8/2015) are shown below:

**Table 1: Data on Vit-$D_3$ Estimation**

| Total Tests | Vit-$D_3$ deficiency in both sexes (%) | Vit-$D_3$ deficiency in Female (%) | Vit-$D_3$ deficiency in Male (%) |
|---|---|---|---|
| 752 | 75.5% (568/752) | 76.8% (391/509) | 72.8% (177/243) |

**Discussion:**

1. It is clear from the table above that:
   a. Vit $D_3$ deficiency is very common in our patients.
   b. Both males and females suffer from Vit $D_3$ deficiency nearly equally.
2. No attempt was made to identify the cause of Vit $D_3$ deficiency in these patients. The possible causes of Vit $D_3$ deficiency in this group of patients may be due to:
   - Low intake of food rich in Vit $D_3$
   - Limited sun exposure
   - Dark skin
   - Chronic kidney disease
   - Old age and obesity
3. It is known to all that long standing Vit $D_3$ deficiency may lead to rickets in children and osteomalacia in adults. Vit $D_3$ deficiency is also said to be associated with increased risk of cardiovascular diseases, cancer, immune deficiency and autoimmune disorders as well as a few neurological and psychological disorders e.g. cognitive disorders, depression, Parkinsonism etc.

# Introduction of New Technique in Spine Surgery: MISS

*Dr Lt Col M A A Salek, Dr S S Ahmed, Dr Brig Gen (Retd) HM Shafiq, Dr G Mustafa, Dr Shuvamay Chowdhury*

Minimally Invasive Spine Surgery (MISS) is an established technique in spine surgery. This technique is popular worldwide but in Bangladesh it has not been established yet at large. In United Hospital we have started MIS discectomy by using Medtronic METRx® tubular retractor system for Minimally Invasive Spine Surgery (MISS).

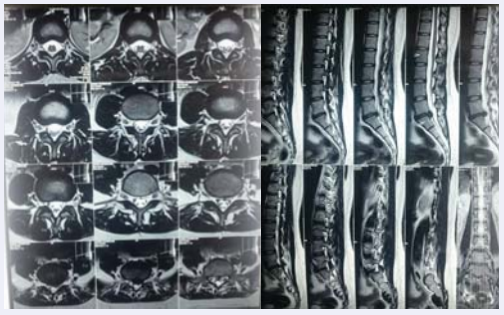


*Fig1: MRI Scan of lumbar spine demonstrated huge left postero lateral disc causing prolapse causing nerve root compression at L4/5 ( Sacralization of L5).*

A 24 year old lady was suffering from severe low back pain radiating down to left leg. She was not improving by conventional medications. She underwent Minimally Invasive Spine Surgery (MISS) by Medtronic METRx® tubular retractor system and she became pain free.

MISS is considered as patient friendly procedure in terms of patient recovery, short hospital stay and quick return to work place.

***Patient's comment:***

*"When I was dying with severe pain, I was getting hopeless. But I got so much relief after my surgery. I heard that this was a major and critical one, but my pain resolved instantly and it didn't take much time for healing my wound as well. I am greatly satisfied and truly grateful to the entire team for their care and concern".*

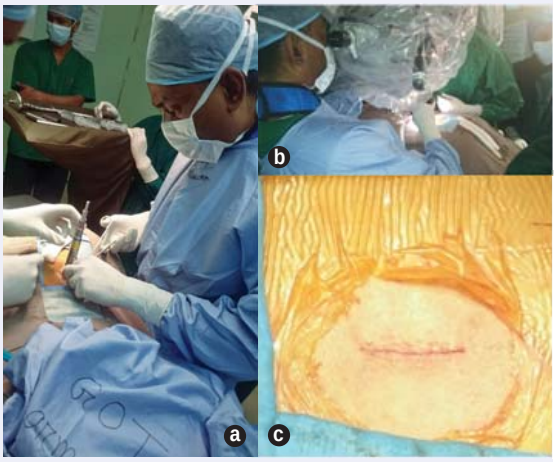



*Fig2: A 2.5 cm skin incision to introduce series of dilators for working channel. Excellent cosmoses (a,b,c)*

# Amazing Result with Chemotherapy Progressed on Sorafinib in Advanced Hepatocellular Carcinoma

*Dr Md Sajjad Hossain*

A 68 year old male with hypertension and benign enlargement of prostate was diagnosed and treated for Hepatitis C in 2005 in the Kingdom of Saudia Arabia. Since then he was on follow up. During a routine check-up in December 2012, ultrasound of his abdomen showed focal lesion in liver & alpha-fetoprotein (AFP) of 700 IU. MRI of liver confirmed a mass in his liver at segment VI, VII of 32 x 30 mm. He was finally diagnosed with Hepatocellular Carcinoma. He was then treated with radiofrequency ablation the next month.

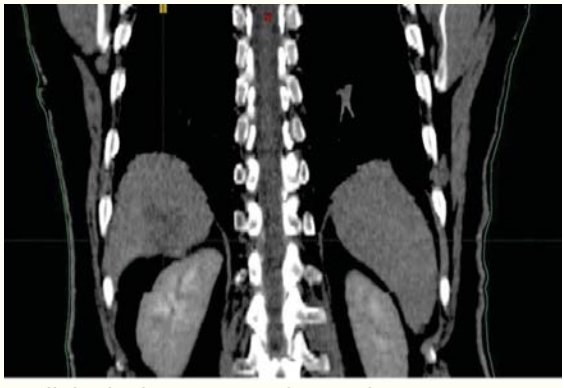
Follow up PET CT showed non avid hypodense lesion in segment VI, VII of 31.7 x 25.4 mm. A 2nd RFA was done. But as his AFP was rising he was put on Sorafinib 200 mg twice daily. He was intolerant to Sorafinib as in having recurrent diarrhea, skin rashes & stomatitis. His AFP was also rising despite that he was continuing Sorafinib.

He came to United Hospital in December 2014. He was examined and thoroughly investigated and results showed performance status of 1-2 on ECOG, multiple skin rashes and stomatitis grade-1,2 noted. Blood parameters were almost normal except thrombocytopenia and mildly raised bilirubin. Echo was normal with Ejection Fraction of 68%.

MRI of liver showed new lesion in the liver at segment 11 on 3.4 x 3.4 cm with minimal marginal enhancement with subcapsular fluid. He was then referred to a Radiotherapist for Stereotactic Body Radiation Therapy (SBRT). But as the patient developed marked Cirrhosis with subcapsular fluid & no significant enhancement of lesion in MRI, he differed to give SBRT. So we decided for palliative chemotherapy with single agent Doxorubicin 60 mg/m$^2$, Q21 day after stopping Sorafinib.

Cycle-1 commenced after two weeks on 22 December 2014. After 1st cycle, his performance status improved dramatically - Alpha fetoprotein became half (753), Biluribin normalized and platelet count rose to 303 from 75. So we continued chemo. After 3rd cycle, repeat MRI showed response - Alpha-fetoprotein came down to 305.

He had received 5 cycles so far. The previous cycle was complicated by Neutropenic Sepsis but recovered. His last abdominal Ultrasound in March 2015 showed marked improvement in the lesion. At this point, he was waiting for the 6th cycle.



Radiological response after cycle-3

**Conclusion:** Response to Doxorubicin in Hepatocellular Carcinoma is around 10% worldwide and PFS & overall survival around 4-6 months.

Whereas, in this case, after the patient was put on Sorafinib and single agent chemotherapy with Doxorubicin, it markedly improved the patient's quality of life.

# United Hospital Emergency Department
# A Center of Excellence in Emergency Medicine of Bangladesh

Emergency Medicine (EM) is a relatively new and dynamic specialty. The idea of Emergency Medicine was first introduced during French revolution by the French military surgeon Dominique Jean Larrey (Father of Emergency Medicine), by his use of "flying carriages", bringing injured soldiers from war fields to the nearest hospital. But, it was not until 1970 when the first residency training on EM was introduced at the University of Cincinnati. In 1971, the first Emergency Department (ED) was established at the University of Southern California. Finally, in 1979, Emergency Medicine was recognized as a separate specialty in the USA.

In the UK, the College of Emergency Medicine (CEM) was formed in 2004. In Bangladesh, Emergency Medicine was first introduced officially by the BSEM (Bangladesh Society of Emergency Medicine) in 2009. Since then BSEM has been organising international workshops and seminars every year. It is not so far away when Emergency Medicine will be one of the most demanding post graduate specialties in Bangladesh like in the western countries.

The Emergency Department at United Hospital is one of the best in Bangladesh in terms of its infrastructure, diversity in patient base and the availability of expert emergency physicians & nurses. It has now also become one of the most dynamic academic venues for teaching and learning various skills and knowledge on emergency management.

The Emergency Department in United Hospital can be divided into four major sections. The first and the most important section is the "Triage Area" which comprises of a nursing station, a reception / customer service & accounts area and a waiting area. The second section is the "Critical Area" with three beds. The third section is called "Non Critical Area" comprising of eight beds. The fourth section is the "Observation Area" which has three beds.





There is a "Minor OT" for minor wound repairs & dressings and a "Full Fledged OT" for major wound repair & procedures. The area also has a "Doctors Room" for OPD consultations & counselling and the recent addition of an "A&E Skill Lab" room for hands on practice and learning of different emergency procedures.

All Emergency doctors and nurses have training opportunity on many emergency procedures and management. The emergency department provides service 24 hours a day and 7 days a week. Ambulance service is also available for both critical and non-critical patient transfers. On January 2 and 3 2015, two emergency physicians from United Hospital participated in EMICON 6 (6th International Conference on Emergency Medicine) as invited speakers and faculty for the ATLS station at Trauma Workshop organized by BSEM. Later that month a daylong "Workshop on Emergency Medicine" was held at United Hospital. On 7 May 2015, the first A&E skill lab of the country was founded in United Hospital.

Being part of this recent academic revolution, all emergency physicians and some indoor doctors have been motivated to pursue their future career in the field of emergency medicine by showing their willingness to sit for the UK based MCEM (Membership of the Royal College of Emergency Medicine) exams. All study materials are from the UK and a first MCEM study group is being formed.

# First A&E Skill Lab in Bangladesh at United Hospital
## Its Origin and Importance in Medical Education

The rapid changes in the teaching and learning methods in medical field along with tremendous growth of technology challenged the traditional way of clinical skills development that led to the emergence of clinical skills laboratories (CSLs) or Skill Labs worldwide. This Skill Lab teaches emergency physicians and nurses the critical skills that are needed for critical patient management and allows practicing procedures that are performed on day-to-day basis in the emergency department. Skill Labs provide a safe and protected environment in which the learner can practice clinical skills before using them in real clinical settings.

Worldwide, the first Skill Lab was established in Maastricht, The Netherlands Limburg University in 1976. Since then many medical schools and educational institutions have integrated Skill Labs into their curricula. Currently, Skill Labs have been established in several innovative medical schools including the University of Leeds, Dundee, Dublin, Southampton, Liverpool, and the Imperial College. In the Arab world, the United Arab Emirates University was the first to establish Skill Labs in 1988.


In Bangladesh, the first A&E Skill Lab was established on 7 May 2015 at United Hospital. It was founded by two dedicated emergency physicians based on their prior work experience in the USA and Trinidad.



Being the first in its category, the work and training in the skill lab at United Hospital has been progressing well with the cooperation from all specialty departments. The department prepares a monthly calendar with training sessions held every fortnight. So far about 25 Skill Lab sessions have been organised in A&E department. As a result there has been a huge impact in the practice of Emergency Medicine. The recent achievements are as follows:

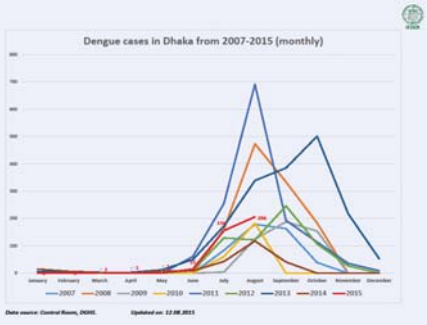
1. Introduction of "Silent CPR" concept in A&E department.
2. Nursing priority during code blue has been revised and training being given periodically.
3. A nursing "Code Blue Roster" is being maintained per shift.
4. Nurses are being trained on "A&E Triage" following UK based 5 level triage scale.
5. A separate designated area for "A&E Skill Lab" has been established.
6. The idea of "Shift In–Charge" ER doctor has been initiated.
7. Hands on ATLS training is given periodically.
8. All Emergency doctors are regularly doing procedures like intubation and ABGs.

The future goal of the Skill Lab is to transform A&E Department into a level one trauma center and transform it to a Centre of Excellence duly recognized by the Royal College of Emergency Medicine (UK) and other such professional bodies.

# Dengue Fever: Preventive Measures

***Dr Kashekh Akhtar Jahan***

Dengue is a major public-health concern throughout the tropical and sub-tropical regions of the world. Currently close to 75% of the global population exposed to dengue are in the Asia-Pacific region. It is the most rapidly spreading mosquito-borne viral disease with a 30-fold increase in global incidence over the past 50 years. Today, dengue ranks as the most alarming mosquito-borne viral disease in the world. The World Health Organization (WHO) estimates that 50–100 million dengue infections occur each year with 22,000 deaths - mostly among children. In Bangladesh, the dengue endemic zone is Metropolitan Dhaka. Each year during dengue season (July-November) a big chunk of Dhaka population is affected with dengue fever. Following is a graph of dengue infected cases from 2007-2015 on a monthly basis:




There is no vaccine available against dengue and there are no specific medications to treat this infection. This makes prevention the most important step. Dengue is transmitted through the bite of the female mosquito Aedes Aegypti. For transmission to occur, the mosquito must feed on a dengue infected person during a 5 - day period when large amounts of virus is in the infected person's blood. After entering the mosquito in the blood meal, the virus will require an additional 8-12 days incubation before it can be transmitted to another human.

*Aedes Aegypti* is a daytime feeder. The peak biting periods are early in the morning and before dusk in the evening. This mosquito has evolved into an intermittent biter - biting more than one person during the feeding period and thus making *Aedes Aegypti* a highly efficient, prolific vector. The virus is not contagious and cannot be spread directly from person to person. Rather it is a person-to-mosquito-to-another-person pathway.

There are two ways for transmission prevention:

**1. Source reduction:**

The best preventive measure for areas infested with Aedes mosquito is to eliminate the mosquitoes' egg laying sites – this is called source reduction. Lowering the number of eggs, larvae and pupae will reduce the number of emerging adult mosquitoes and the transmission of the disease. Examples of the following habitats are listed:

**Indoor:** Ant traps, flower vases, saucers, water storage tanks (domestic drinking water, bathroom, etc.), plastic containers, bottles.

**Outdoor:** Discarded bottles & tins, discarded tyres, containers, tree holes, potholes, construction sites, drums for collecting rainwater, shells, husks, pods from trees, leaf axils of various plants, boats, equipment.

Items to collect rainwater or used to store water should be covered or properly discarded. The remaining essential containers should be emptied, cleaned and scrubbed (to remove larvae/eggs) at least once a week. This will prevent adult mosquitoes from emerging from the egg/ larva/ pupa stage.

**2. Personal & household protection:**

Personal protection from mosquito bites is most effective by reducing exposed skin which they are not able to bite on. Long-sleeved clothing and mosquito repellents (containing DEET, IR3535 or Icaridin) are the best options.

Keeping doors & windows shut, net screens and air conditioning reduce the risk of mosquitoes coming into contact with family members. Mosquito nets (and/or insecticide-treated nets) for beds provide additional protection to people while sleeping and also protect against other mosquitoes which bite at night and cause malaria. Household insecticides, aerosols, mosquito coils or other insecticide vaporizers also reduce biting activity.

This year in United Hospital from January to September total number of dengue patients was 395; in comparison in 2014 total dengue cases was 160 from January to December. The peak season has started hence close monitoring and strong control with preventive measures must be undertaken.

# Hospital Based Management of Mass Casualty Incidents (HBMMCI) 2015

***Dr Md Pervez Anwar***

Training program on "Hospital Based Management of Mass Casualty Incidents (HBMMCI)" was arranged by the US Department of State Antiterrorism Assistance from 9 to 13 and 16 to 20 August 2015. Dr Khandaker A Asad, Clinical Coordinator, Dr Mohammad Pervez Anwar & Dr A S M Taufiqur Rahman, Emergency Medical Officer, Dipanwita Bhowmik, Senior Staff Nurse from United Hospital attended the training. It was an interactive training session with participants from the Ministry of Disaster Management & Welfare, Police Department, Fire Department, Army and doctors & nurses from government and non-government hospitals sharing views and protocols of management in the event of mass casualty incidents or disaster. They also talked about the pitfalls and advantages relevant to regions, potential risk factors and vulnerable areas and events that could be forecasted for the region.

# Neonatal Hypoglycemia

*Dr Nargis Ara Begum*

Hypoglycemia is the most common metabolic problem in neonatals. Hypoglycemia can be defined as glucose level that is insufficient to meet metabolic requirement. Current accepted blood glucose level is less than 47 mg/dl (<2.6 mmol/l)

**Risk factors for neonatal hypoglycemia**

Prematurity, IUGR, perinatal asphyxia, hypothermia, sepsis, hyperinsulinaemic states, infants of diabetic mothers

**Clinical Features**

Lethargy, floppiness (hypotonia), poor feeding, jitteriness, apnoea, convulsions, pallor, sweating, tachycardia, hypotension, heart failure, cardiac arrest

Clinical types: Transient and persistent / recurrent hypoglycemia

**Glucose and Neonatal Brain Function**

- A newborn has a higher brain to body wt ratio. Cerebral glucose demand is higher - 90% of total glucose assumption
- Persistent and prolonged neonatal hypoglycemia can lead to adverse neurology disorders such as epilepsy, psychomotor disturbance, visual disturbance (hypoglycemia-occipital syndrome), learning disability, cerebral palsy and mental retardation

**Monitoring for Asymptomatic Hypoglycemia**

- Capillary blood glucose screen to be done at 30-60 minutes and 2 hours, then at 4 hours of age
- If repeat blood glucose is normal, 2-3 hourly feeding is ensured with 4-6 hourly monitoring for 48 hours

**Monitoring for Symptomatic Hypoglycemia**

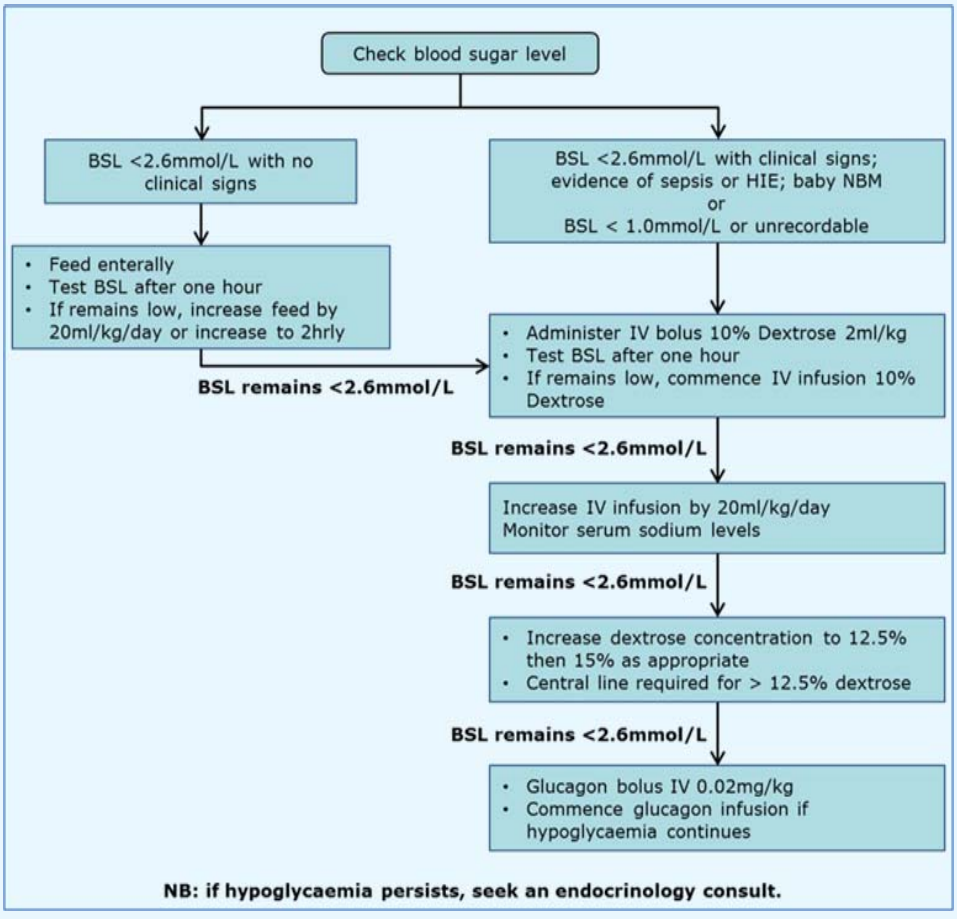
- Step 1: Hourly monitoring till stabilization of glucose level. At least two readings more than 2.6 mmol/L
- Step 2: Followed by 4 hourly monitoring until full feeding established
- Step 3: Followed by 6 hourly monitoring for 3 readings after full feeding established

  ## If any reading is < 2.6 mmol/L then revert back to step 1

**Treatment**

- Asymptomatic: Enteral feeding
- Symptomatic: (a) Transient: Dextrose infusion & (b) Persistent. Dextrose infusion + Pharmacotherapy

**Flowchart: Management of Neonatal Hypoglycaemia**

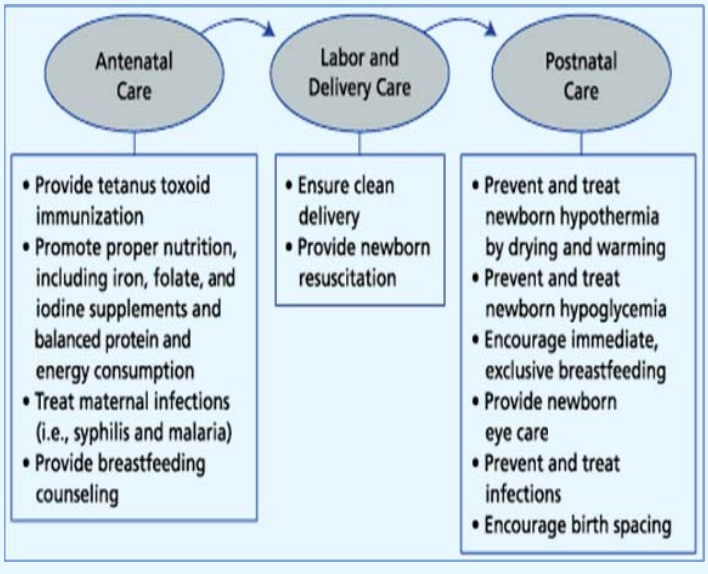



**NEW TRIAL (Sugar Babies Study-9/2013)**

Infants in the dextrose gel group are less likely to receive additional dextrose. Recurrent hypoglycemia is less common in babies in the dextrose gel group. No serious adverse events.


**Prevention: Key messages**

- Neonatal Hypoglycemia is a preventable & treatable disease
- Early and frequent breast feeding prevents asymptomatic & uncomplicated neonatal hypoglycemia
- Prolonged hypoglycemia should be evaluated and properly treated



## GE Vice Chairman Visits United Hospital

Mr John G Rice, Vice Chairman of GE and Mr Srinath Venkatesh, GE Bangladesh, Country Manager visited United Hospital on 13 July 2015. Mr Najmul Hassan, CEO of United Hospital Limited had a brief meeting with them followed by a tour of the hospital.

## Visits to United Hospital

- A six member Japanese delegation led by Dr Mohammed Moazzem Hossain, President Bangladesh Private Medical College Association came to United Hospital to see the existing facilities of the hospital on Sunday 12 July 2015.

- A delegation from GD Assist Ltd, an official representative of Malaysia Healthcare Travel Council (MHTC) and a subsidiary of Green Delta Insurance Company Ltd led by Dr Rajeentheran Suntheralingam, Urologist from KPJ Hospital, Malaysia came to United Hospital to meet Dr M Zahid Hasan, Consultant, Urology Department United Hospital on Sunday 30 August 2015.

- A delegation from Siemens Bangladesh Dhaka office led by Dr Chaitanaya Gulvady, Head of Health Management, Siemens Ltd. India along with local officials came to see the various facilities of United Hospital on Sunday 13 September 2015.

## Corporate Signing

Brig Gen Shakawat Hossain, PSC (Retd), Executive Director of AUKO-TEX Group came to United Hospital to sign a corporate agreement on Sunday 2 August 2015.


Corporate Signing between Prime Bank Limited (Monarch Customers) & United Hospital Limited was held on Wednesday 26 August 2015. Mr A O M Rashed, SEVP & Head of Corporate Liability Marketing of Prime Bank Limited and Dr Shagufa Anwar, Chief of Communication & Business Development of United Hospital were the authorized signatories respectively.

Berger Paints Bangladesh Limited & United Hospital Limited signed a corporate agreement on Thursday 10 September 2015.

## Training Sessions

- On 6 August 2015, training program on “Advance Management of Ostomy & Wound Care, Colostomy” was arranged by Janata Traders at Hotel Sundarbon, Dhaka. Staff nurses Ms Kanika, Ms Mahfuza Khatun and Ms Najrin Khatun from United Hospital attended the training.

- On 1 September 2015, post-graduate students from Gono Bishawabidyalay Mr Asim Kumer Paul, Ms Nahida Sultana, Mr Mohaimenul Islam and Mr Ahsanul Karim Hawladar joined as Trainees for six months in the Radiation Oncology Unit of United Hospital.

On 24 & 25 July 2015, Customer Relation Supervisors Ms Jesmin Akter & Mr Sajal Deb Nath from United Hospital attended training on “Development of Managerial Leadership Skills" arranged by DCCI Business Institute.

## Grameen Caledonian Glasgow University, UK Students Visit United Hospital

On 15 September 2015, a total of 7 nursing MSC students from different areas like Podiatry, Physiotherapy, Optometry, General Nursing and an RN lecturer representing the Grameen Caledonian Glasgow University based in UK visited United Hospital.

DCNO Ms Shahida Parvin gave a short presentation on United Hospital and also an overview of the Nursing Department and its activities. This was followed by a Question & Answer session.

## Seminar & Workshops

A seminar was held on 10 August 2015 in the Institute of Child and Mother Health (ICMH) in Matuail on advanced treatment modalities practiced in Neonatal ICU of United Hospital. Dr Nargis Ara Begum, Consultant Neonatology was the main speaker. The seminar was attended by 125 doctors.

Dr Nargis highlighted the surfactant therapy of premature babies in RDS and prostaglandin therapy in management of Persistent Pulmonary Hypertension of Neonates. She also spoke about the use of Total Parenteral Nutrition for premature babies for the first time in the country and also about the treatment success rate of Low Birth Weight babies in United Hospital. She further emphasized on the breast feeding and counseling methods practiced in United Hospital for parents and grandparents.

Dr Nargis answered many questions of ICMH Consultants who also sought support from United Hospital in extending training for their doctors and nurses.

On 5 and 16 Aug 2015, a workshop on "Coordination Skill for Successful Management" was arranged for In-Charges, Managers, Coordinators and Nursing Staff. A total of 52 staff and 59 nurses attended. Dr Khandker Shamsul Arefin, Franchise Manager, Oncology, Novartis (BD) was the resource person.

A national workshop cum training titled "National Workshop on World Sealed Source Inventory" was held from 27-31 July 2015 at Bangladesh Atomic Energy Regulatory Authority (BAERA), Dhaka, Bangladesh. The workshop was jointly organized by BAERA and International Atomic Energy Agency. Architect Mr Yeafesh Osman, Honorable Minister, Ministry of Science And Technology, Government of the People's Republic of Bangladesh was the Chief Guest of the opening ceremony. United Hospital's Dr Md Faruk Hossain, Medical Physicist attended the program as a scientist on behalf of United Hospital.

## Image Guided Radiotherapy

Department of Radiation Oncology, United Hospital organized a workshop on "Image Guided Radiotherapy" for Radiotherapy Technologists on 18 September 2015 in United Hospital. With mainly Radiotherapy Technologists from all over Bangladesh, there were 32 participants. The objective of the workshop was to improve the quality of radiotherapy through a better understanding of the usage of immobilization, effect on treatment accuracy due to set up errors and importance of image guided treatment and then went on to discuss how errors can be minimized.

The workshop focused heavily on hands-on activities that enforce the practices identified in international standards and provided an optimum combination of plenary presentations and hands-on practical exercises. Our Radiation Oncologist, Medical Physicist & Radiotherapy Technologist gave presentations on ways to utilize immobilization and image guidance effectively in all tumour sites in Radiotherapy. At the end of the workshop, certificates were awarded to all the participants.

## CRITICON Bangladesh 2015


The 2nd International Conference on Critical Care Medicine, Criticon Bangladesh was held from 12-13 September 2015 at IDEB Bhaban, Kakrail, Dhaka by Bangladesh Society of Critical Care Medicine (BSCCM). The congress was designed for critical care physicians to know about recent developments in all aspects of critical care medicine. There were important sessions on chest medicine, haemodynamics, sepsis, nephrology, cardiology, neuromedicine and other specialties. This conference was unique as it included a separate session on critical care nursing. There were foreign speakers from Korea, Japan, Malaysia, India, Pakistan & Nepal.

From United Hospital, Chief of ICU Dr Md Maniruzzaman along with other doctors and nurses from ICU, NICU & CCU attended the conference. Specialists Dr Lutfun Nahar (CCU) and Dr Moushumi Marium Sultana (Nephrology) moderated two scientific sessions of the conference successfully. Nurse Hasan Tarek (HDU) did a presentation on "Infection Control" which was appreciated by all.

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## We Congratulate the Newly Weds on the Auspicious Occasion of Their Marriage

- Senior House Officer Dr Md Atiqur Rahman of General Surgery Department got married to Dr Fatma Ferdous on 24 July 2015.
- Senior House Officer Dr K M Abdullah-Al-Masood of Orthopaedics Department got married to Dr Tahmina Rahman on 31 July 2015.
- Senior House Officer Dr Shihab Arefin Chowdhury of General Surgery Department got married to Asma Rahman Khan on 20 August 2015.
- House Keeping Department's Supervisor Sarwar Uddin got married to Nahid Sultana on 4 September 2015.

## Congratulations & Best Wishes to the Following Staff and Their Spouses


### New Baby

- IT Department's System Administrator Mr Abu Bakkar Siddiqui Khan (Shibly) had a baby boy Mohammad Sajidur Rahman Khan on 12 July 2015.
- Nursing Department's Staff Nurse Roslin Gomes of 3rd Floor had a baby girl Shinjon Agnes on 20 July 2015.
- Nursing Department's Staff Nurse Kulsum Khanam of 3rd Floor had a baby boy Shafin Alaraf on 4 August 2015.
- Nursing Department's Staff Nurse Shima Alo Halder of 6th Floor Oncology Ward had a baby girl Angela Marry Roy on 27 August 2015.

## Condolence & Prayers

- Duty Manager Aminul Islam lost his father-in-law Nasir Uddin Bhuyan on 11 July 2015.
- Consultant Dr Aminul Hassan of Orthopaedics Department lost his mother Khodeja Begum on 7 September 2015.

Clinical Coordinator Dr Rishad Choudhury Robin attended a training session on Hospital Administration at Apollo Hospitals Educational & Research Foundation in Hyderabad, India from 27 July to 7 August 2015.


*The Post Basic BSc final year students attended a workshop on Basic Research Skills held at the UCN lecture gallery-1. Dr Salauddin (founder representative) and Prof Dr Momtaz Khanam, Principal United Nursing College, with other faculty members also attended the workshop.*

## Post Basic BSc Nursing, UCN

The first Post Basic BSc nursing students of United College of Nursing (UCN) took their final exam in July 2015. The post basic course is a two year graduation program for nurses who have already completed the four year diploma course.

The Post Basic BSc course of UCN started in 2013 with 20 students. Both students and the faculty members are very hopeful in getting good results.

## New Consultant

**Dr A H M Rezaul Haque**
MBBS, MS (Ortho)
Arthroscopy Training & Fellowship
(Singapore General Hospital)
**Department of Orthopaedic**

Clinical Coordinator Dr Rishad Choudhury Robin participated in "Pacific Resilience Disaster Response Exercise and Exchange 2015" at Dhaka Cantonment from 30 August to 3 September. Both civilian and military professionals from different countries including US, UK, Australia, Nepal and Myanmar attended the training. The training was organized jointly by the Armed Forces Division, Bangladesh and US Army Pacific.