

### **FOREWORD**

At a time when the Covid pandemic has surged ahead by spreading its evil legs of second wave in the entire country, the race for survival of human race has become more challenging. But as the history has taught us, human race can and will overcome these difficult times too. The need of the hour is to keep more vigil and remain active in terms of keeping a sound health. So, please take a healthy diet, maintain personal hygiene, excise regularly, vaccinate yourself and your family members from covid, follow all Covid protocols and more importantly "Do not panic". Like the previous years, this year also the Medical Section has come up with the Hospital e-Newsletter. This is the VI volume of the newsletter that contains articles on various issues on health written by medical experts. We hope that you will find these articles informative and at the same time useful. It will be a pleasure for the IITG Hospital to hear the feedbacks from readers regarding the content of the newsletter. This we believe will enhance our quality as far as dissemination of quality information on health front goes.

Please do take good care of yourself and your dear-ones.

Regards,

Team, Medical Section

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Volume VI	2021
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### Dr. Anuj Kr. Baruah, MD, DFID CMO (SAG) & HOS, Medical section

### **Vaccinations for Adults with Diabetes**

#### **Introduction:**

Diabetes mellitus is a major health problem worldwide. It is a chronic metabolic disorder characterized by disordered carbohydrate, protein and fat metabolism due to an absolute or relative deficiency of the pancreatic hormone Insulin. According to the International Diabetes Federation (IDF), approximately 463 million adults (age: 20-79 years) were living with diabetes in 2019 and by 2045 this will rise to 700 million; the proportion of people with type 2 diabetes is increasing in most countries and 79% of adults with diabetes were living in low and middle income countries; diabetes caused 4.2 million deaths in 2019. India has an estimated 77 million people with diabetes, which makes us the second most affected nation in the world, after China.

### **Role of Vaccines:**

Nowadays vaccines are regarded as a part of our modern life. Development of vaccines significantly reduced the morbidity and mortality associated with all those vaccine-preventable diseases. Both type 1 and type 2 diabetics are at higher risk for serious problems from certain vaccine-preventable diseases. Diabetics, even with a reasonably better glycemic control have weaker immune system, so they are at risk of more serious complications from an illness compared to people without diabetes. Serious hyperglycemia is a common complication with influenza. People with diabetes have higher rates of Hepatitis B infection than rest of the population. Diabetics are more vulnerable to LRTIs, UTIs and skin and soft tissue infections. Even the outcome of treatments for infectious diseases in diabetics tends to be poor. Vaccines are one of the safest ways of primary prevention in diabetics. Alterations of host defense system in diabetics are due several factors, like:

- Poor Antibody response
- Abnormalities in Cell-mediated Immune system
- Decreased CD4/CD8 Lymphocyte ratios
- Reduced phagocytic function of monocytes
- Impaired Leukocyte function
- Changes in NK- cell and IL- 2 functions
- Predisposition to colonization

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• Reduced Innate immunity

#### **Vaccines for Adults with Diabetes:**

The vaccines we can use in adults with diabetes are Hepatitis A, Hepatitis B, Hib (Haemophilus influenzae type b, Human Papilloma virus, Influenza, MMR (Measles, Mumps and Rubella), Meningococcal vaccine, Pneumococcal vaccine, Tdap (Tetanus, Diphtheria and Whooping cough), Varicella (Chickenpox) and Zoster (Shingles) vaccines. These all are not mandatory and only few are recommended for routine vaccination of diabetics. CDC (Center of Disease Control) of USA specifically advises following five vaccines for routine use in adults with diabetes:

- 1. Influenza vaccine: to protect against seasonal flu every year. Serious complications with flu are common in diabetics (type1, type2 and GDM), which may lead to hospitalization or even death. There are two varieties, trivalent inactivated influenza vaccine (TIV) and live, attenuated influenza vaccine (LAIV). For both single dose yearly is sufficient and this LAIV is an intranasal spray vaccine.
- 2. Pneumococcal vaccine: to protect against serious pneumococcal diseases. There are two types, pneumococcal polysaccharide vaccine and pneumococcal conjugate vaccine. Here also single dose is sufficient and may require another dose after 5 years.
- 3. Tdap vaccine: to protect against tetanus, diphtheria and whooping cough. For those which were fully immunized during childhood, only single dose every 10 years is sufficient.
- 4. Hepatitis B vaccine: to protect against hepatitis B infection. Three doses are necessary on 0 day, 1 month and 6 months gap.
- 5. Zoster vaccine: to protect against shingles. CDC recommends that adults 50 years or older get two doses of the shingles vaccine separated by 2 to 6 months, to prevent shingles and its complications.

Last but not the least the vaccine of the year "Covid19 vaccine". After the outbreak of Covid19 pandemic all the researchers worked hard to develop an effective vaccine against the Covid19. So, at present we have some vaccines to mitigate the outbreak of Covid19. Though diabetes does not increase the susceptibility of a person to get infected with Covid19 in comparison to other non-diabetics, diabetes actually increases the chances of life threatening complications of Covid19 and increases the chances of hospitalization, ICU admission, post-Covid complications and even death. So, now there is a world-wide recommendation for Covid19 vaccination for individuals suffering for diabetes, apart from some other co-morbidity.

#### Side effects:

All the modern vaccines are safe and some individuals may experience mild side effects after the vaccination, which are signs that our body is building protection. Most of the side effects are mild or moderate in nature and go away within a few days on their own. Common side effects are pain at

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the injection site, fever, fatigue, headache, chills and muscle pain. Occasional allergic reactions may be there and only in rare cases there may be severe allergic reactions following vaccination. One very rare but life threatening allergic reaction is acute anaphylaxis which needs prompt management. Some vaccines may lead to some kind of neurological abnormalities but it's very rare.

#### **Contraindications to vaccination:**

- 1. The absolute contraindication of vaccine is known hypersensitivity to the active ingredients or to any of the excipients of the vaccine.
- 2. History of chicken egg allergy particularly when considering flu shot.
- 3. Recent history of Guillain-Barre syndrome within 6 weeks of a previous influenza vaccination.
- 4. Immunization may be postponed in patients with acute febrile illness or any acute infection.
- 5. Pregnancy is still a contraindication for Covid19 vaccination.
- 6. Live, attenuated vaccines should not be used in immune compromised individuals.

#### **Conclusion:**

Apart from common micro- and macro-vascular complications infectious diseases pose a great threat for the diabetic populations. In India adult vaccination program is not that popular. We have to evolve vaccination strategies as part of routine care for diabetics and a central registry have to be maintained. Some people believe that naturally acquired immunity from having the disease itself – is better than the immunity provided by vaccines. However, natural infections can cause severe complications and may be deadly. Even with advances in health care, the diseases that vaccines prevent can still be very serious and so, vaccination is the best way to prevent them.

Dr. Mala Borthakur, Chief Medical Officer (SAG)

**Convener, Tele Medicine Committee IITG** 

## Tele Medicine services, with special reference to IIT Guwahati

As a directive of the National Medical Commission regarding telemedicine practices in the health establishments of the country, the IIT Guwahati Tele Medicine Portal was launched online on 16<sup>th</sup> March 2021, from the Hospital Conference room by the Deputy Director in presence of the Tele medicine Committee members and the Medical Section.

The portal has been created, designed and maintained by the Institute's Computer and Communication Centre with detailed inputs of the Institute's Medical Section. The Patient, who is an employee of the Institute can avail the facility for self and their bonafide dependents at present. The Scope for our students to avail the facility is also being planned for the next phase.

A user manual has been created by the Medical Section detailing the portal's use.

User has to first login using his IITG credential using IITG ERP/Internet Access Password. For example, if the username is xyz (say) then s/he has to enter xyz under Log in and valid password. The URL for telemedicine is: https://online.iitg.ac.in/telemedicine/

After login, we will see the Portal Home Window

Please click on "Appointment" link and then "Select Date" option and find the date to check availability of the RMP (Registered Medical Practitioner).

After that we will get to see the RMP available on a particular date.

Please select RMP as available, answer all the prefill-questionnaire, user consent –cum-declaration and at last click on the tab under Action Column. Then click on the link "Messages" on the left side of the window to start conversation with the RMP.

The Consultation is text based at real time and has audio visual facility for communication. The medicine refill request can be sent through this portal.

Several Government Policies rule tele medicine. They are as below:

Telemedicine Practice Guidelines 2020 from Medical Council of India

EHR Standards, 2016, GOI

Information Technology Act

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The IIT Guwahati tele medicine policy encompasses the various principles or aspects for retention of all kinds of medical records stored in form of digitalised data accumulating in the portal for availing telemedicine consultations and for other patient care uses. The responsibilities of the RMPs and end-users have been mentioned in the policy documents. The data security and privacy clause have been spelt out in the policy. However, the entire scope of the policy will be guided by the latest government policies or guidelines and subject to amendments from time to time or as per the rules of this institute.

RMPs: As per the MCI guidelines on telemedicine practices, RMPs role in keeping the data secured and private is accorded topmost priority. They must ensure that the patient data is kept secured and free from any unauthorised access of any third party.

Users: Users should provide their identity before obtaining any form of telemedicine consultation and should completely abide by the instructions given by the RMPs. Anonymous user can never undertake the consultation from RMPs. The digital data should be uploaded as per the advice of the RMPs should completely match the file size (in pdf, jpeg, etc.). The consent from patient (user) who is willing to avail telemedicine consultation is completely mandatory.

IIT G telemedicine users are already using the portal to obtain continuing medicines effectively. Using the portal would bring down direct visit to the hospital's probable infected environment, reduce crowding and facilitate social distancing. After experiencing first-hand, the benefits of remote online consultation, it would become clear to the patient, the kind of symptoms which could be consulted online and for the ones that necessitate a hospital visit.

#### Dr. Leena Barua, MD(O&G)

Chief Medical Officer (SAG)

## **OVARIAN NEOPLASM**

The ovarian neoplasm may be classified in the following ways:

NON-NEOPLASTIC ENLARGEMENT OF THE OVARY

Follicular cyst

Follicular haematomas

Lutein cyst of the ovary

Multiple functional cysts

Polycystic ovarian syndrome (PCOS) or disease (PCOD)

### **OVARIAN TUMOURS**

### Tumours of surface Epethelium

-Serous cystadenoma and cystadenoma-carcinoma

-Mucinous tumour

-Endometroid tumour

-Mesonephroid tumour

-Brenner tumour

-Spread of epithelial tumours of the ovary

#### Germ cell tumours

-Teratoma

-Dermoid cyst

-Solid teratomas of the ovary

-struma ovarie

-carcinoid tumours

-dysgerminoma

-Mixed germ cell tumour

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#### Sex cord stromal tumours

(a) Feminising Functioning Mesencheymoma

-Granulosa cell tumour

- Theca cell tumour

#### (b) Virilizeig Mesenchymoma

-Arrhenoblastoma

-Adrenal cortical tumours of the ovary

-Hilus cell tumour

-Gynandro blastoma

#### Tumour arising from connective tissue of the ovary

Ovarian fibroma

#### <u>CYSTS</u>

<u>Follicular cyst-</u> They may be single or multiple unilateral or bilateral and may vary in size. They are usually the result of failure of absorption of the fluid in an incompletely developed follicle.

They are usually asymptomatic unless complications occur.

Most of them disappear within few weeks or month and require no treatment.

#### Follicular haematomas

Small follicular haematomas are common. Most of them are asymptomatic and of no clinical significance unless complications occur.

Lutein cyst of the ovary

They are two types

(a) Glanulosa lutein cyst- They are functional and non neoplastic enlargement of the ovary. Persistence cyst may cause pain or delayed menstruation surgical treatment is required if there is torsion or rupture of the cyst. Othewise they resolve in due course of time.

(b) Theca lutein cyst- They may sometime be considerably enlarged to several centimetres in diameter and are usually bilateral. They are often found in association with hydatidiform mole or choriocarcinoma and dissapear when the root cause is treated.

#### Multiple functional cyst

They may be caused by:

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#### 1. FSH secreting pituitary adenoma

#### 2. Ovarian hyperstimulation syndrome

Pituitary adenomas require transpheroidal excision of the adenoma but no surgery is required for the ovarian cysts.

#### Polycystic ovarian syndrome (PCOS) or disease (PCOD)

Incidence of PCOD is fast increasing due to change in life style pattern and stress. 20 % of the infertility is due to this disease. The main cause is insulin résistance which ultimately leads to anovulation.

Menstrual irregularities, infertility, acne and hirsutism are some of the crucial factors.

The treatment involves, weight loss, change in lifestyle, quitting cigarrete smoking.

Oral combined pills, metformin may be needed for menstrual irregularities and clomephere treatment may be required if there is infertility.

#### Serous cyst adenoma and cyst adenocarcinoma

They are the most common of ovarian cyst. Of these 60 -70% are benign, 15 % borderline and 20 - 25 % malignant

<u>Mucinous tumours</u> - They are multiloculated cyst and may weigh as much as 5-10 kg. They are usually pedunculated and may be associated with dermoid cyst or brennier tumour.

Brenner tumour-They are usually unilateral and benign.

<u>Endo metroid tumour</u>-They are mostly Malignant tumours and account for 20% of all Ovarian malegnancies. They are of modenate size and are solid tumours wilt cystic areas filled with haemorrhagic fluid.

Mesonephroid tumour: It is also called clear cell tumour. It is highly malignant and but uncommon.

<u>Brenner tumour-</u> It is a solid tumour and accounts for 1-2% of all ovarian neoplasm. It is usually benign. It causes post-menopausal bleeding and may be associated with ascites and hydrothorax

#### GERM CELL TUMOURS

They show differentiation along embryonic pathway they are called teratomas and may of three categores.

(i) Mature (benign) eg dermoid cyst.

(ii) Immature malignant) solid teratomas

(iii) Mono dermal – Struma ovaries.

<u>Dermoid cyst-</u> It is usually unilocular. It contains sebaceous gland hair follicles, teeth, bone, cartilage thyroid tissue and bronchial membrane.

<u>Solid teratomas-</u> It has both- a solid part and cystic part. Solid part contains bone and cartilage while hair and sebacecous material are found in cystic part.

<u>Struma ovary-</u> It is a solid tumour consisting enteriely of thyroid tissue. Some cases develop thyrotoxicosis. Most of them are benign but malignancy is also recorded.

Carcinoid tumours- It may be primary or metastatic. It occurs as malignant charge in a benign dermoid cyst.

Dysgerminoma- It corresponds to seminoma of the testes. It is usually solid and benign.

Mixed germ cell tumour- It contains two or more recognizable cell entities.

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### SEX CORD STROMAL TUMOURS

Sex cord stromal tumours originate either from the sex cords of the embryonic gonad or from the stroma of the ovary.

Femenizing functioning mesenchymome

Granulosa cell temoun - It is composed of cells closely resembling the granulose of the cells of graffian follicles and is quite common. It is a type of solid tumour which occurs in any age group. The tumours

secrete oestrogen.

<u>Thela cell tumour</u>-It is a solid tumour and is unilateral. It is a rare tumour and affects post menopausal women. It is usually benign and instensely oestrogenic. Virilizing tumours

<u>Arrheroblastoma-</u> It is unilateral and solid. It secretes androgen which first causes defeminisation followed by masculinization. The incidence of malignant transformation of those tumours are higher than that of the feminizing tumours.

### Adrenal corteal tumours of the ovary

It is very rare tumour which is sometimes causes masculinization Microscopically they resemble the cells of the adrenal cortex and hence also known as hypernephroma.

<u>Hilus Cell tumour-</u> It is a rare virilising tumour and occurs in the post menopausal women. Runkus crystal is present in the cell which is a distuinguishing feature of the leydig or interstitial cell of the testes.

Gynandnoblastoma- It combines the characteristics of granulosa cell tumour and anrheroblastoma.

### TUMOURS ARRSING FROM CONNECTIVE TISSUES OF OVARY

<u>Ovarian fibroma</u>- It comprises of 3 % pf the ovarian neoplasm. It may weight upto 25 kg and occur in any age. It is a solid tumour but frequently undergoes degeneration so cystic spaces are found in the centre.

### COMPLICATION OF OVARIAN TUMOUR

(1) Axial rotation(torsion)

(2) Rupture

- (3) Psuedomyxoma of the peritorium
- (4) Infection
- (5) Extraperitoreal development
- (6) Secondary malignancy

#### Dr. Pallabi Sarmah, MBBS, PGDCN

#### **Medical Officer**

#### **Diet in Type 2 Diabetes Mellitus**

As no. of cases of diabetes is increasing worldwide, we need to take care of diet along with medications to control diabetes. Lifestyle modifications have a central role to play in the management of Type 2 diabetes. Following an appropriate diet and maintaining adequate level of physical activity can bring about results comparable to some of the commonly used antidiabetic drugs. Therefore, every patient with Type 2 DM should inco -operate therapeutic lifestyle change as part of his or her management plan.

Dietary management forms one of the pillars of diabetes care. Diabetic diet is not a complete deviation from a normal diet. The nutrient intake is based on the age, sex, weight, height, physical activity, physiological needs, personal preferences, and associated co-morbid conditions. It is seen that diet therapy can reduce 0.5% -2.6% in HbA1c.Therefore, it is important to control calorie intake per day. Assessment of calorie intake also depends on frequency and patterns of eating out, calling food home or ordering in etc. We can calculate the dietary calorie requirement using the following formula:

Determination of calorie requirement in Cal/kg ideal body weight.

Ideal body weight =(height in cm-100)x.9

Activity level	underweight	Normal	Overweight/obese
Sedentary	35	30	20-25
Moderate	40	35	30
Heavy	45-50	40	35

Dietary Recommendations:

Carbohydrate should contain 50 to 60% of total calorie intake. Primary source of complex carbohydrate should be cereals, mixed course of grains, whole pulses, soyabeans, salads etc. Total dietary fibre intake like jowar, oats, barley, green leafy vegetables, fenugreek etc .should be 15 gm/1000Cal.Four to five servings of fruits should be included if blood sugar level is controlled. Avoid all simple sugars like honey, jaggery, restrict processed refined food like maida. Artificial sweeteners can be used in limited quantity. But best avoided in pregnancy and lactation. Sucralose can be used as sweeteners.

Proteins: Proteins from vegetable sources like low fat milk and milk products, fish, lean meat are preferable. The recommended daily protein intake is 1 gm /kg/day. It should contribute 15to 20% of total daily calorie intake.

Fat: In addition to the fats present in cooking oil almost every food item contain a small amount of fat which may not be immediately evident .This should be taken into consideration while calculating the fat intake. A reduction in saturated fat and cholesterol consumption is an important goal to reduce the risk of

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cardiovascular disease. Reducing intake of saturated fat lowers LDL cholesterol by 15 to25%. Cooking oil is the main source of visible fat in the diet. There is no single oil which can be considered as a perfect choice. A combination of oil is required to ensure adequate supply of essential fatty acids. Olive oil is not considered ideal oil for Indian cooking practices.

Foods that can be eaten in unlimited amounts by diabetics are cabbage, cauliflower, green leafy veges, tomatoes, cucumbers, gourds, thin butter milk without sugar, lime juice without sugar etc.

There should be also restriction salt upto 5 gm /day. Intake of papad, prickles, chutney, salty processed should be restricted. In case of hypertension, nephropathy restriction of salt is more than recommended.

Alcohol intake may exacerbate neuropathy, dyslipidemia, obesity and may worsen the control of diabetes. It is advisable not to drink when blood sugar is not under control. The calorie contributed by alcohol is 'empty' calorie devoid of other nutritional value. Smoking and the use of tobacco in any form should be discouraged along with alcohol.

### **Dr. Palash Bortamuly, MBBS**

#### Medical Officer

### How does Covid-19 spread and how to avoid it

The novel coronavirus, SARS-CoV-2, is the virus responsible for causing the illness COVID-19.Many people experience mild symptoms, while some experience no symptoms at all.Most people who develop COVID-19 symptoms improve without treatment in 2–6 weeks.This can make it difficult to tell who has this virus inside their body.

### HOW LONG THE VIRUS LASTS IN THE BODY:

it depends on the individual and the severity of the illness. The Centers for Disease Control and Prevention (CDC) advise that people who test positive for COVID-19 should isolate themselves for the following amount of time:

SEVERITY	Transmission period
No symptoms	10 days after a positive test
Mild or moderate illness drugs)	10 days after symptoms appear, and after 24hours with no fever(without
Severe illness	Up to 20 days after symptoms appear.

### HOW LONG THE VIRUS LASTS IN THE AIR:

SARS-CoV-2 spreads via respiratory droplets, which are tiny drops of liquid that enter the air when a person coughs, sneezes, or talks. A May 2020 study found that loudly talking can emit thousands of these droplets into the air, remaining airborne for around 8–14 minutes in a confined space. As speech droplets do not appear to remain airborne for very long indoors, a person's proximity to someone with SARS-CoV-2 is an important risk factor for developing COVID-19.

HOW LONG DOES IT LAST IN FOOD:

Currently, there is no direct evidence a person can contract SARS-CoV-2 from food. The World Health Organization (WHO) Trusted Source state that coronaviruses need a live animal or human host to survive, and that they cannot multiply on food packaging surfaces.

The WHO suggests washing fruits and vegetables as normal and washing hands thoroughly before eating. People should also ensure they do not share cutlery or plates with those who may have COVID-19.

### HOW TO PREVENT COVID-19:

The best way to prevent COVID-19 and stop transmission to others is to avoid exposure to the virus that causes it. The CDC Trusted Source recommends:

(1): Washing the hands frequently with soap and water for at least 20 seconds using hand sanitizer containing at least 60% alcohol, if soap and water is not available

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(2): Avoiding touching the face, particularly the nose, eyes, or mouth with unwashed hands staying at least 6 feet, or 2 meters, away from people who are outside of a person's household

(3): Wearing a mask in public places, when around people from other households, or in situations where physical distancing is difficult

(4): Covering coughs and sneezes with a tissue or the inside of the elbow, and disposing of used tissues immediately in the trash

(5): Cleaning and disinfecting frequently touched objects and surfaces every day.

Mr. Kandarpa Das, MPT

Physiotherapist

#### **<u>Tele-physiotherapy during covid19 pandemic</u>**

Tele-physiotherapy is the use of internet based communication in the management of patients within their own homes or for a patient who is residing in a remote area. Tele-physiotherapy service is delivered to a patient by a smart phone, computer or with the help of pre-recorded videos. Tele-physiotherapy is a very effective mode of treatment and can be delivered at an individual level or in a group of patients with similar ailments. It is more beneficial for the patients residing in remote areas where the patients cannot access the Physiotherapy services. With the recent progress in digital technology, the patients can easily access to Physiotherapy services. It also allows the physiotherapist to deliver the services from his/her preferred location. This is a convenient mode of treatment when it is compared to face to face consultation with the physiotherapist. Tele-physiotherapy service is delivered to a patient by a qualified physiotherapist. The physiotherapist will explain about the exercise procedure, its benefits and no. of repetition of the exercises to the patient. He/she will prescribe the exercise protocol based on the nature and severity of the ailments. He/she will monitor the patient's progress through video calling on a regular basis. Tele-physiotherapy is not suitable for those patients where electrotherapy and hands on treatment is needed.

Apart from electrotherapy and hands on treatment procedure in Physiotherapy, exercise therapy also has got significant role in reducing pain and deformity of a patient. For most of the long term Physiotherapy conditions exercise is the mainstay of the treatment. Exercise therapy is helpful for most of the cardiopulmonary disorders, orthopedic and in neurological rehabilitation. Exercise therapy is aimed to restore the functional limitation of the area to be treated. Exercise therapy will improve the strength and flexibility of the muscle and improve the joint range. Moreover it will improve the endurance and reduce the fatigue. Overall the exercise therapy will improve a patient's quality of life. A proper evaluation of patient's ailments and a supervised exercise regime is necessary for a good prognosis of a patient. A well designed group of exercise is taught to the patient or to the patient's caregiver.

Because of Covid-19 pandemic the scenario of health care system has changed. The need of social distancing became mandatory to prevent the spread of covid19 disease. Also the other measures like frequent washing of hands and wearing face mask became mandatory in public places. Thus the Physiotherapy practice became limited, especially when it comes to maintaining social distancing. Also it became difficult for the patients to access the Physiotherapy clinics to continue the treatment. Withdrawal of Physiotherapy treatment declined the improvement of the patients. Thus tele-physiotherapy became a popular method in continuing the treatment. Moreover tele-physiotherapy does not require direct contact of physiotherapist to patient. The patient can continue their regular exercise regime despite of ongoing pandemic situation through tele-physiotherapy. On a regular basis the physiotherapist can do reevaluation of the patient and can do necessary change in the exercise protocol. Advanced exercise therapy protocol can be implemented depending on the improvement of the patient. The patient can also share their experience and any discomfort faced while doing the exercises. Patient can ask about any doubt regarding their

exercises. Tele-physiotherapy is helpful for covid- 19 patient also for both home isolated patients and the patients who are in hospital. The physiotherapist can guide the patient how to do breathing exercises to restore the lung function. Also the other exercises to combat the symptoms of Covid-19 infection. Till the end of covid-19 pandemic situation tele-physiotherapy can support the patients in continuing their treatment. In the forthcoming days tele-physiotherapy may be an alternative mode of treating a patient, so more attention should be given to make tele-physiotherapy highly effective and available for the patients.

### **IMAGES- 2020-21**

Launch of the IITG Telemedicine Portal on 16th March 2021 from IITG Hospital Conference Room



*Photo: Hon'ble Deputy Director, Prof. S.K. Kakoty launching the portal in presence of Dr. A.K. Baruah, HOS Medical Section, Dr.M. Borthakur, Convener IITG Telemedicine Portal Committee and members of the Telemedicine Committee* 

## Launch of the IITG Telemedicine Portal on 16th March 2021 from IITG Hospital Conference Room



*Photo: Dr. M. Borthakur, Convener of the Telemedicine Committee laying a power-point presentation on the occasion of the launch of the telemedicine portal* 

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Covid-19 Vaccination drive carried out by IIT Guwahati Hospital



Photo: Standee for Covid-19 Vaccination Centre at IIT Guwahati Hospital

Covid-19 Vaccination drive carried out by IIT Guwahati Hospital

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Photo: Medical Team engaged in Covid-19 vaccination drive carried out in IIT Guwahati Hospital

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