

# Genesis

the dawn of a NEW ERA...

the official Newsletter of Panimalar Medical College Hospital & Research Institute



**American  
Heart  
Association®**

## **INTERNATIONAL TRAINING CENTER (ITC)**



**PANIMALAR**  
MEDICAL COLLEGE HOSPITAL  
& RESEARCH INSTITUTE  
—MAKING A HEALTHY TOMORROW—



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**info@pmchri.ac.in**



**www.pmchri.ac.in**

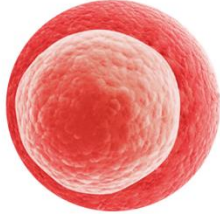


**CELL**



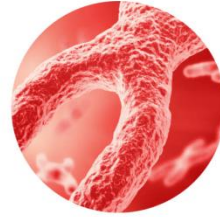
**Dr. P. Chinnadurai**  
Secretary & Correspondent

**NUCLEUS**



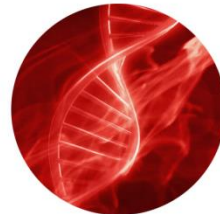
**Dr. C. Sakthikumar**  
Director

**CHROMOSOMES**



**Mrs. C. Vijaya Rajeswari**  
Director  
**Mrs. Saranyasree Sakthikumar**  
Director

**DNA**



**Dr. C. Ilamparuthi**  
Dean  
**Dr. Surapaneni Krishna Mohan**  
Vice Principal  
**Dr. R. Sabaratnavel**  
Medical Superintendent

**MITOCHONDRIA**



**Dr. Ilham Jaleel**  
Assistant Professor  
Physiology

**SPLICERS**



**Dr. M. Arunkumar**  
Chief Academic Officer  
Tutor, Community Medicine  
**Dr. V. Krishnan**  
Associate Professor  
Pharmacology  
**Dr. M. Perumal**  
Assistant Professor  
Dermatology, Venereology & Leprosy  
**Dr. R. S. Praveen Kumar**  
Assistant Professor  
Psychiatry  
**Dr. R. Divya**  
Senior Resident  
Obstetrics & Gynaecology  
**Dr. Sumetha Suga**  
Tutor  
Microbiology



## Message from **Mitochondria & Splicers**

*As they say “well begun is half done” we are happy with the way things fell into place and we thank you for the valuable feedback that we have received for the very first edition. As the corona panic is intensifying all over the world we hope all of you are safe and healthy. We also congratulate the front line COVID warriors from sanitary workers to policy makers for their selfless contribution. We insist that the best way to fight against any odds would be having good Knowledge, Attitude and Practice. Everyone should have basic knowledge that covid virus spread through respiratory droplet infection and close contact so that they develop an attitude of spreading the knowledge to kith and kin. The pace of spread can be slowed down by practicing social distancing, frequent handwashing with soap or sanitizers, wearing masks and necessary personal protective equipments.*

*As we have planned the news letter will have five domains – Scientific Contributions, Awards and Recognitions, Infotainment, Photo Gallery and Interactive updates. Kindly write to us regarding your valuable feedback and suggestions for further improvement to [newsletter@pmchri.ac.in](mailto:newsletter@pmchri.ac.in).*



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- 05 **'NEW'** tation

## PCR (Polyscientific Contributions)

### Publications :



**Dr. Surapaneni Krishna Mohan** Ph.D(Medical)., M.H.P.E., M.Acad.Med.,FRSC  
Vice Prinicpal,  
Professor -Department of Biochemistry,  
Head, Department of Clinical Skills & Simulation,  
Head, Department of Research,  
Panimalar Medical College Hospital & Research Institute,  
Varadharajapuram, Poonamallee, Chennai - 600 123.

Has published the following original Research Papers :

1. Vannilic acid ameliorates hyperglycemia-induced oxidative stress and inflammation in streptozotocin-induced diabetic rats. Journal of King Saud University-Science. 2020 ;32(7) : 2905 -2911. **Impact factor - 2.93**
2. Antidiabetic Activity of Methanolic Extract of Artabotrys suaveolens Leaves in 3T3-L1 Cell Line. J. Pure Appl. Microbiol. 2020;14(1) : 573-580.
3. Clinical and sonographic features in ovarian torsion and their relevance in surgical intervention. Drug Invention Today. 2019 ; 13 (5) : 741 -743.
4. Knowledge of COVID-19 among nursing and Allied health care professionals working in tertiary care hospital. International Journal of Research in Pharmaceutical Sciences. 2020 ; 15 : 11(SPL1):103-109.
- 5.Effect of Stevioside on Apoptotic and Tumor Suppressor Proteins in Skin Cancer Cells.IJAST. 2020 ; 29 (7s) : 5071 - 5075.
6. Docking analysis of importin-11 homology model with the phyto compounds towards colorectal cancer treatment. Bioinformation. 2020 ; 16(2) : 153-159.



**Dr. Sindhura Myneni,**  
**Senior Resident,**  
**Department of Obstetrics and Gynaecology,**  
**Panimalar Medical College Hospital & Research Institute,**  
**Varadharajapuram, Poonamallee, Chennai- 600123.**

Has published the following original Research Papers :

01. Clinical and sonographic features in ovarian torsion and their relevance in surgical intervention. Drug Invention Today. 2019 ; 13 (5) : 741 -743.

02. Knowledge of COVID-19 among nursing and Allied health care professionals working in tertiary care hospital. International Journal of Research in Pharmaceutical Sciences. 2020 ; 15 : 11(SPL1):103-109.

03. Effect of Stevioside on Apoptotic and Tumor Suppressor Proteins in Skin Cancer Cells.IJAST. 2020 ; 29 (7s) : 5071 - 5075.



**Dr. Sai Ravi Teja Kamineni ,**  
**Senior Resident,**  
**Department of Pulmonology,**  
**Panimalar Medical College Hospital & Research Institute,**  
**Varadharajapuram, Poonamallee, Chennai- 600123 .**

Has published the following original Research Papers :

01. Effect of Stevioside on Apoptotic and Tumor Suppressor Proteins in Skin Cancer Cells.IJAST. 2020 ; 29 (7s) : 5071 - 5075.

02. Knowledge of COVID-19 among nursing and Allied health care professionals working in tertiary care hospital. International Journal of Research in Pharmaceutical Sciences. 2020 ; 15 : 11(SPL1):103-109.

03. Clinical and sonographic features in ovarian torsion and their relevance in surgical intervention. Drug Invention Today. 2019 ; 13 (5) : 741 -743.



**Dr. Divya Ravikumar**  
**Senior Resident,**  
**Department of Obstetrics and Gynaecology,**  
**Panimalar Medical College Hospital & Research Institute**  
**Varadharajapuram, Poonamallee, Chennai- 600123.**

Has published the following original Research Papers :

01. Knowledge of COVID-19 among nursing and Allied health care professionals working in tertiary care hospital. International Journal of Research in Pharmaceutical Sciences. 2020 ; 15 : 11(SPL1):103-109.

02. Clinical and sonographic features in ovarian torsion and their relevance in surgical intervention. Drug Invention Today. 2019 ; 13 (5) : 741 -743.



**Dr. Padmavathy,**  
**Head of Department,**  
**Department of Obstetrics and Gynaecology,**  
**Panimalar Medical College Hospital & Research Institute,**  
**Varadharajapuram, Poonamallee, Chennai- 600123.**

Has published the following original Research Paper :

01. Clinical and sonographic features in ovarian torsion and their relevance in surgical intervention. Drug Invention Today. 2019 ; 13 (5) : 741 -743.



## RNA(Recognitions N Awards)

### Recognitions :

**AMERICAN HEART ASSOCIATION (AHA)**  
Accredited  
**INTERNATIONAL TRAINING CENTER (ITC)**



**American  
Heart  
Association®**

As the first step towards reaching the global recognition, **Panimalar Medical College Hospital & Research Institute** has been recognized as the **Authorized International Training Centre** by the **American Heart Association (AHA), USA** for conducting training in Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS). It is a privilege to be associated with an organization that has revolutionized treatment of heart ailments across the world. Life support training programs are aimed to empower health care professionals with set of life saving protocols and skills in emergency situations. Our eminent faculties have undergone vigorous training and periodic auditing in both Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) and have been recognized as AHA certified instructors. We encourage and look forward to train many more Health care professionals through this platform.

### Awards :



has been awarded the Fellowship & admitted  
as a

**“FELLOW  
OF  
THE ROYAL SOCIETY OF CHEMISTRY”**



## “Fun”tosis

### Essence Of Personality

An epic story of Mahabaratham and the characters of different personalities reveals something interesting to mankind.

Lord Krishna was lying in his sofa with His eye closed. Duryodhana wanted Lord Krishna to help for upcoming war. So he decided in his mind to ask for Lord Krishna's army instead of Him because Duryodhana thought he is not going to use any weapons in the war, so what is the use of choosing Lord Krishna. At the same time Arjuna came there to visit and ask for His (Lord Krishna's) help. Lord Krishna opened his eyes and saw directly Arjuna sitting near His feet. Though Duryodhana came to that spot first, he chose to be seated behind Krishna's head.

Lord Krishna asked Arjuna "You came first and I will offer you to choose any benedictions first". Duryodhana objected that he only came first and said "I am sitting behind your head, that is why you are unable to notice me first".

Arjuna knew this and he politely agreed to take second chance to get help from Lord Krishna. Duryodhana got first chance but failed to choose the best to win in the war. Arjuna got second chance and he utilized it in a proper manner and chose Lord Krishna itself. Lord Krishna agreed to help Arjuna without any weapons and He became as Ratha Saradhi (Chariot driver).

Essence in the personalities shows that Duryodhana got a chance to win the war with Lord Krishna's help but failed to utilize because of his Arrogance or Ego. Whereas Arjuna chose the best instead of material weapons because of his humbleness and politeness learnt from the elders.

*Contributed by:*

**Dr. K. Srinivasulu M.D.**

*Professor, Department of Forensic Medicine,  
Panimalar Medical College Hospital & Research Institute,  
Poonamallee, Chennai -600 123.*

## கொரோனா ஆத்திச்சூடி

அணிவாய் முகமூடி (அணுகாதிருக்க கிருமி) !!  
ஆட்களிடமிருந்து விலகி நில் !!  
இருமினால் முழங்கை மடிப்பில் இருமு !!  
ஈட்டம் (கூட்டம்) தவிர் !!  
உபயோகம் செய் - கிருமி நாசினியை !!  
ஊரோடு ஒத்துழை (நோய் ஒழிக்க) !!  
எப்போதும் சுத்தமாயிரு !!  
ஏடாகூடமாய் வதந்தி பரப்பாதே !!  
ஐ (கண்), மூக்கு மற்றும்  
வாயினை தேவையின்றி தொடாதே !!  
ஒப்புரவு ஒழுக்கு (கொரோனா தடுப்பு  
வழிமுறைகளுக்கு) !!  
ஒதுவது ஒழியேல் (கொரோனா குறித்து) !!  
ஒளடதம் தேவைப்படின் தவறாமல் உட்கொள் !!  
இஃதெல்லாம் செய்து கொரோனாவை முறியடி !!

இந்தியாவில் கொரோனா பரவாமல்  
ஒழிய சூளுரைப்போம் .....  
அதற்காக அனைவரும் ஒன்று சேர்ந்து  
ஒத்துழைப்போம் !!!

*Contributed by :*  
*Dr.S.Roopa, MD., DMCH., FAIMER Fellow.,*  
*Professor & Head,*  
*Department of Physiology,*  
*Panimalar Medical College Hospital & Research Institute,*  
*Poonamallee, Chennai - 600 123.*

## “Photo” Chrome P450

### Sutureless Autoconjunctival Graft Following Pterygium Excision – A New Technique

**Pterygium is a common ocular surface disorder in tropical countries. The wing shaped growth from the conjunctiva is can recur in some patients following pterygium excision surgery .**

Patients diagnosed with pterygium in Panimalar Medical College Hospital & Research Institute were planned for excision with autoconjunctival graft fixation using autologous serum. Baseline investigations were done. On the day of surgery, 3 ml Venous blood is removed from the patient and sent to the laboratory for centrifugation and separation of serum. The separated serum is kept in a sterile vial and taken to the operation theatre. The pterygium is excised and the defect is measured with calipers. The graft is obtained from the superior bulbar conjunctiva. One drop of autologous serum is placed on the bare sclera and the graft is placed on the sclera. Gentle pressure is applied to the graft for 2 minutes after



unfolding. After 5 minutes the speculum is gently removed after confirming the graft uptake and patch bandage is applied. Postoperatively, the patient is relatively asymptomatic and the recovery time is also faster. Graft rejection has not yet been observed in these patients. The complications of the procedure like graft retraction was seen in the conjunctival side for, graft loss, graft edema, displacement of the graf. The degree of discomfort experienced by the patient post surgery was mild in 4 patients, moderate in 2 patients. The operative time is less when compared to suturing the graft or using fibrin glue.

This method of using autologous serum for autoconjunctival graft fixation is very cost effective and reduces the financial burden for patients. The chances of post operative recurrences have not occurred in our patients but long term studies are required. This novel approach is necessary for countries like india without compromising on the technique and safety.



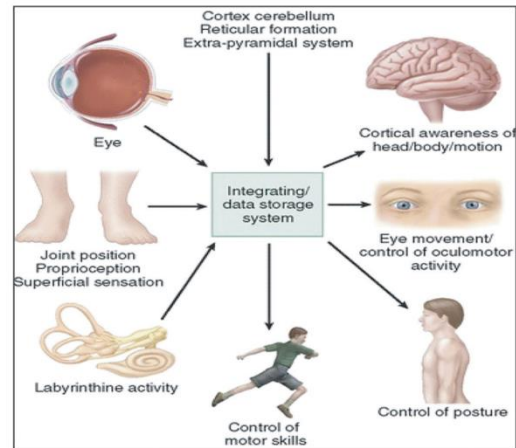
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## 'NEW'tation

### A systematic approach to Neurotology: Our OPD practice

**D**izziness is a common complaint encountered in medical practice. Due to lack of comprehensive knowledge and diagnostic criteria, most of the vestibular disorders are misdiagnosed. Not all dizziness or vertigo needs medical treatment with labyrinthine sedatives. First step in treating a patient is to understand what problems the patient is suffering from. It's all about the need for guidelines in neurotology.



**“Guidelines are statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options”**

Guidelines are just broad principles based on available evidences and the clinician treating the patient is expected to follow the guidelines but is not mandatory or binding on the clinician who is the best judge to decide on the management strategy as per the unique needs and requirements of the individual patient.

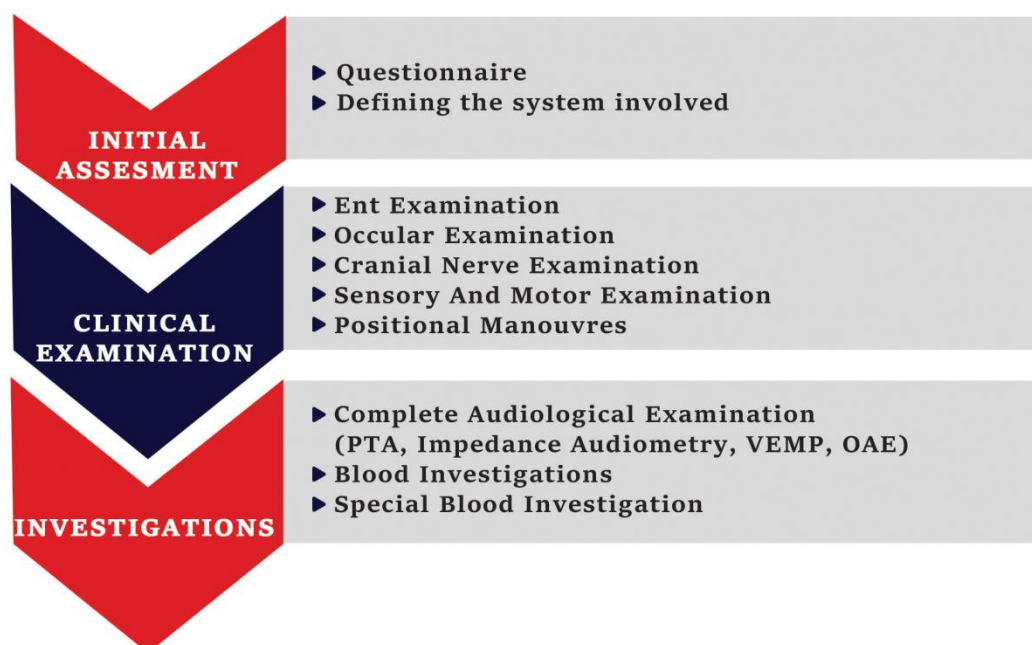
The purpose of having definite guidelines is to increase implementation of whatever evidence we have into practice so that clinical practice is pursued in a logical and scientific way. There are many drugs used in neurotological disorders that have been scientifically established to be ineffective if not harmful but are yet commonly prescribed by doctors.

In balance disorders it is not only the vestibular system that is involved; there is involvement of the cognitive system, the psychic system, the musculoskeletal system, the neurological system, the auditory system and sometimes also the autonomic system. Each of this system has a different impact on the patient's health.

Each patient needs individualized and customized treatment based on scientific evidence. Having standardized criteria for diagnosis based on consensus and clinical experience of experts is essential for disciplines like neurotology where the diagnosis is primarily symptom-driven very much like psychiatry and headache, where quite often there is no full proof histopathology, radiographic, physiologic, or other independent diagnostic standard available.

In neurotology, diagnosis is based on a judicious mix of presenting symptoms, chronology of the disease, findings of the clinical tests that need to be done by the clinician, vestibular function tests, the patient's response to previous treatment received for the disorder and above all the clinician's clinical judgment and insight in neurotology. Management of neurotological disorders needs a holistic approach which is best possible by a trained and experienced astute clinician with special interest in neurotology.

On the basis of patients benefit and with an insight in Neurotology we follow certain guidelines for patients with dizziness in our ENT OPD. Patients who presents with symptom of dizziness are evaluated as :



## Grow Your Hippocampus

Yes, here's how, and why it matters. Hippocampus is the part of the brain which stores memory. It's kind of like our inner hard drive. And just like actual hard drives, we can boost its performance. These brain areas have the unique capacity to generate 700 new brain cells every day. Most of these neurons, do not survive. In their premature phase they need a great deal of support to survive, grow and become an active member of the hippocampal community of neurons. The best way to



generate new hippocampal neuron is to exercise. Experimental study has shown that mice assigned to running wheel generated far more new neurons in their hippocampus than those without a running refill.

Humans who exercise regularly and physically fit have a much bigger hippocampus. The more you walk the less would be your risk of developing Alzheimer's disease.

Hippocampus can grow even without generating brand new neurons. The premature neurons have the capacity to grow taller, larger and stronger by right nutrition, plenty of oxygen, a molecule called BDNF (Brain Derived Neuro Trophic Factor) and stimulation.

Some of the ways we can mature and nourish hippocampal neuron include eating a Mediterranean diet that includes olive oil, salmon and food rich in omega3 fatty acids and nuts. DHA and EPA which are building block of neurons is associated with larger hippocampus size, better memory and lower risk of developing Alzheimer's disease.



Simple life style interventions can also grow the hippocampus size. Stress reduction and meditation have shown substantially expanded volume of hippocampus.



Learning new language or challenging one's brain by learning new facts is another way to grow the very part of your brain that is critical for our ability to keep your memories alive.

Unfortunately, hippocampus can shrink as easily as it can grow. Some of the ways to quickly shrivel it within months or years include stress, anxiety, untreated depression, obesity, uncontrolled diabetes, sedentary life style, eating junk food and concussions, each of these negative risk factors have been associated with a smaller size hippocampus. And a higher likelihood of developing Alzheimer's disease in the future.

In summary, there are solid scientific evidence that we all have the capacity to grow the part of our brain that shrinks with aging. A bigger hippocampus can protect us against dementia symptoms in our 70's and 80's. These exciting new discoveries should empower all of us to be proactive in keeping our brain healthy today and to ward off Alzheimer's disease decades later.

*Contributed by:*

***Dr. C. Bhuvanewari,***

*Associate Professor,*

*Department of Anatomy,*

*Panimalar Medical College Hospital & Research Institute,*

*Poonamallee, Chennai - 600 123.*

## HYPOTHYROIDISM

A casual attempt to present most of the clinical features of Hypothyroidism in alphabets.

- A** Anaemia, Astherin, Alopecia
- B** Bowel- Constipation, Bradycardia
- C** Cold intolerance, Coarse features, Carpel tunnel syndrome
- D** Dyspnoea (Mechanical), Deafness, Dementia
- E** Eye- Madarosis, Eye lids swelling
- F** Face- Facial swelling, Mask like facies
- G** Gynaecology- Amennorrhoea, Dysmenorrhea
- H** Higher center- Myxedema madness
- I** Impaired sweating, Intertrigo
- J** Jerky monotonous speech; Jerks delayed
- K** Kidney- dysuria, ARF
- L** Lethargy
- M** Myxedema madness, Myxedema coma, Movements Multiplex
- N** Numbness, Necrosis
- O** Obese, Oedema
- P** Pleural effusion, Pericardial affusion
- Q** Quick actions absent
- R** Rheumatic pain, Relaxation phase and ankle jerk delayed
- S** Sweating absent, slow actions
- T** Tinnitus, Tamponade (Bradycardia), Thick tongue
- U** Uptake studies low
- V** Vitiligo, Vague pains
- W** Women commonly affected
- X** Xero conjunctivitis, Xerostomia
- Y** Young age
- Z** Zero to 30 in BMR

*Contributed by:*

**DR.T. Ravindran, MD.,**

*Professor of Medicine,*

*Panimalar Medical College Hospital & Research Institute,*

*Poonamallee, Chennai - 600 123.*

## ROLE OF BIOMARKERS IN COVID-19

**CORONA** virus disease (COVID-19) is a pandemic infection disease caused by newly discovered coronavirus. Over 200 countries have been affected by the COVID-19 disease with over 3 million confirmed cases leading over 2,00,000 deaths. Infected patients may present with variety of symptoms such as fever, cough, myalgia, headache, dyspnoea, Anosmia, Ageusia, ARDS or even acute cardiac injury. These subjective clinical symptoms can be interpreted more confidently with the use of certain biomarkers. These biomarkers plays an important role in disease pathogenesis of COVID- 19 and their levels vary depending on the severity of the disease. Henceforth categorizing patients into mild, severe or critical becomes more defined allowing for earlier interventions. It also helps clinicians to group patients and predict prognosis and mortality.

### C- Reactive Protein (CRP)

CRP is a plasma protein produced by the liver and is induced by various inflammatory mediators such as Interleukin-6 (IL-6). A rise in the CRP level is associated with an increase in the disease severity.

The application of CRP in COVID-19 has been studied by many researchers globally and the results showed that the CRP level is significantly higher in COVID-19 patients with severe disease progression compared to non-severe patients. CRP is a strong indicator to reflect the presence and severity of COVID-19 infection. CT scan are used to identify the lung lesions relating to COVID-19 but could not differentiate mild cases from severe cases. CRP is proved to have 83 % sensitivity and 91 % specificity as a biomarker for COVID-19. Hence compared to CT scan alone, CRP values are more reliable for earlier identification of case severity.

### Interleukin-6 (IL-6)

Cytokine release syndrome (CRS) is an over exaggerated immune response involving an overwhelming release of Pro-inflammatory mediators. Studies have found that there is a link between CRS and disease severity and IL-6 level rises sharply in severe manifestation of COVID-19. Various study results have shown that the mean IL-6 concentration were 2.9 fold higher in patient's with complicated COVID-19 (ICU admission, onset of ARDS and mortality) compared to those with non-complicated disease. Therefore clinicians can use IL-6 level to identify the disease severity earlier and oxygen therapy can be commenced sooner.

## D-dimer

D- dimer originate from the lysins of cross-linked fibrin. Increased level of D-dimer indicate the activation of coagulation and fibrinolysis. Studies have found that the D-dimer levels of > 1.0 mcg/ml were associated with increased mortality among COVID-19 patients and patient with D- dimer level of > 2.0 mcg/ml or more during admission had higher rate of in hospital mortality. The median D-dimer levels were higher in ICU patients compared to non- ICU patients. Hence D-dimer level can be used as a prognostic marker in COVID-19 patients.

## Lactate dehydrogenase (LDH)

LDH is an enzyme which converts Pyruvate to Lactate in glucose metabolism. LDH secretion is triggered by necrosis of cell membrane. In COVID-19 patients, LDH level is increased hinting to viral infection or lung damage, such as pneumonia induced by SARS-CoV-2. LDH levels were found to be significantly higher in ICU patients than non-ICU COVID patients indicating the role of LDH as a predictive biomarker of disease severity in COVID-19 patients. Furthermore, the LDH levels were correlated with CT scans, significantly higher levels reflected severity of Pneumonia.

*Contributed by :*

***Dr. G. Lakshmi, M.D.,***

*Assistant Professor,*

*Department of Biochemistry,*

*Panimalar Medical College Hospital & Research Institute,*

*Poonamallee, Chennai - 600 123.*



## Tips to prevent backache while you Drive

People spend more time on the road nowadays for work, leisure and various other reasons. Getting trapped in Chennai traffic is a nightmare. Prolonged sitting and constrained postures while driving can lead to back pain. I don't think there is any fun in driving with backache, it doesn't matter whether you are a driver or a passenger.

Often you tend to get backache while driving making it difficult to drive. You may even worry that you won't be able to drive anymore.



But we don't want to give up the thrill of driving at any age right? All it requires is some effort from us to prevent back pain while we drive. Driving a car isn't as comfortable as sitting on a cushioned chair. It requires us to adopt various positions and movements according to deceleration, acceleration, side to side swaying and vibration. A study analysed the effect of whole body vibration while travelling in a car. They found that lumbar spine has a natural resonant frequency of four to five Hz. Whereas driving increases this frequency resulting in increased spinal load eventually leading to postural discomfort and low backache. Another study reported that there is a two-fold increase in sciatica and low backache among people who drive a lot. Here are some ways to prevent your backache while you drive.

### 1) Keep your back pockets empty

Empty pockets not only teach million lessons, but also destress your spine. Sitting on your wallet, smart phone or anything will affect your spine alignment.



### 2) Get your seat and Headrest adjusted

Adjusting your car seat to a comfortable position can help a great deal in preventing low backache. Be seated such that the steering wheel is at arm's reach rather than too close or too far. Seat should be at an angle of 100°-110°; maintain elbow flexion of 20°-30°; the pedal should be within the reach allowing the knee to be slightly higher than the level of Hip. To maintain the head and neck in neutral position, Place your Head in the middle of the headrest. This prevents low backache and all the discomfort you experience while you drive.



### 3) Proper Lumbar Support

Put your back exactly at the centre of your seat to get maximum support and cover. Unlike luxury cars, most cars doesn't come with Lumbar support, I would recommend you to buy a lumbar support accessory.



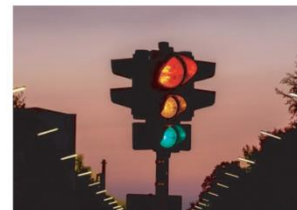
### 4) Steering Wheel:

Study suggests to hold the steering wheel at 9' o clock and at 3 o'clock position. This allows us to rest our elbows on the vehicle's arm rests, thus reducing the stress over upper back.



### 5) Take a break at Traffic Signals and Jams

Try to move little in your seat while you get 30 seconds break. Even stretching and moving for 5 to 10 seconds is considered far better than sitting still. Stretch your hamstrings and pump your ankles.



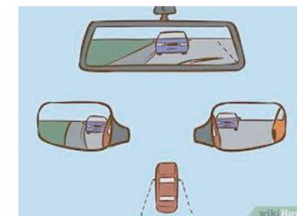
### 6) Getting In and Out of your vehicle

Many people get into the car and twist around while they sit. This increases stress at your back. It is better to face away from the seat while you get in, sit and swivel in. Similarly to get out, swivel out of the vehicle turning away from the car seat.



### 7) Rear and Side view Mirrors

If you note carefully, you tend to move and twist to look into the mirrors. Ideally you should move only your eyes to look at either of the mirrors.



### 8) Get your Vehicle Checked

Get your vehicle serviced at regular intervals, change worn out shock absorbers, check tyre pressure and replace worn out tyres.



*Contributed by*

**Dr. Arun Viswanath.** N M.S Orthopaedics,  
Assistant Professor,  
Department Of Orthopaedics,  
Panimalar Medical College Hospital & Research Institute,  
Poonamallee, Chennai - 600 123.





 Varadharajapuram, Poonamallee, Chennai - 600 123.

 044 6161 6161  [info@pmchri.ac.in](mailto:info@pmchri.ac.in)  [www.pmchri.ac.in](http://www.pmchri.ac.in)

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