

LIFESTYLE AND COMMON AILMENTS OF BRAIN AND SPINE



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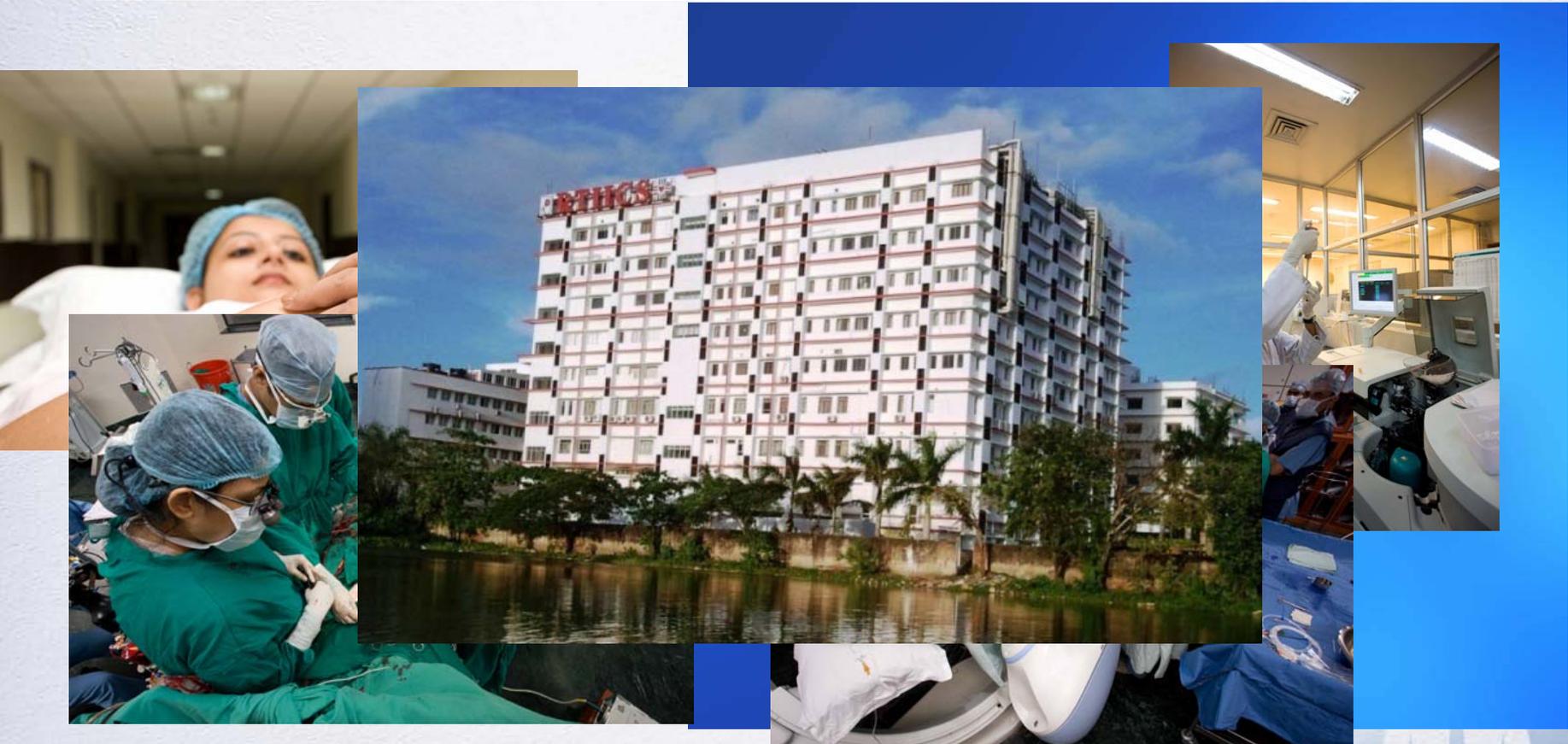
&

Narayana Superspecialty Hospital, Howrah

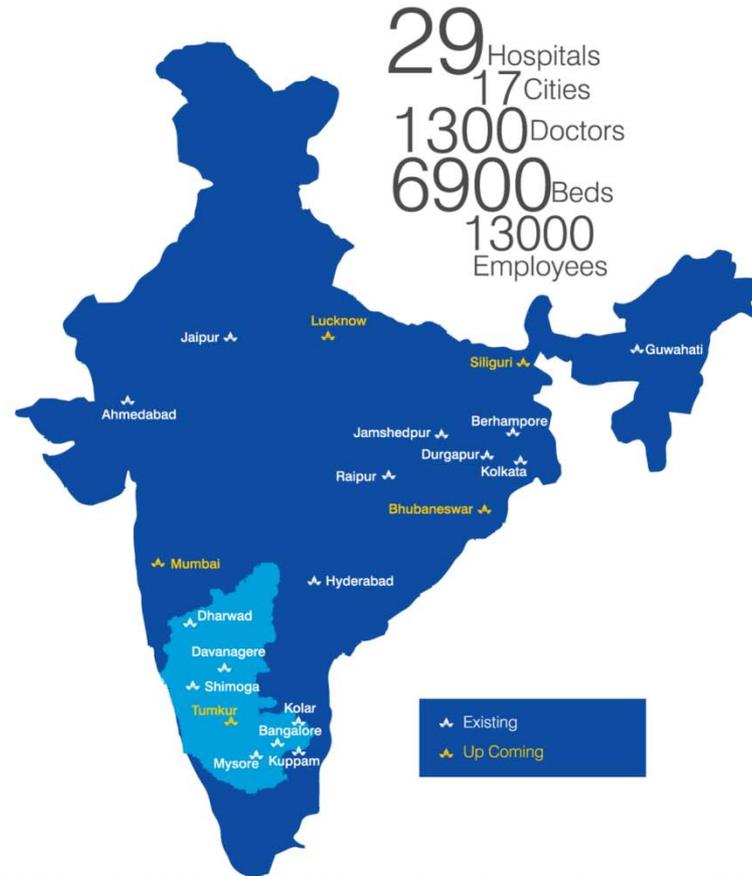
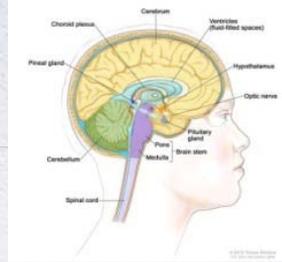
Rabindranath Tagore International Institute of Cardiac Sciences(RTIICS)

KOLKATA

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International Institute of Cardiac Sciences
Unit of Narayana Health



NEUROSCIENCES—BRAIN AND SPINE CARE



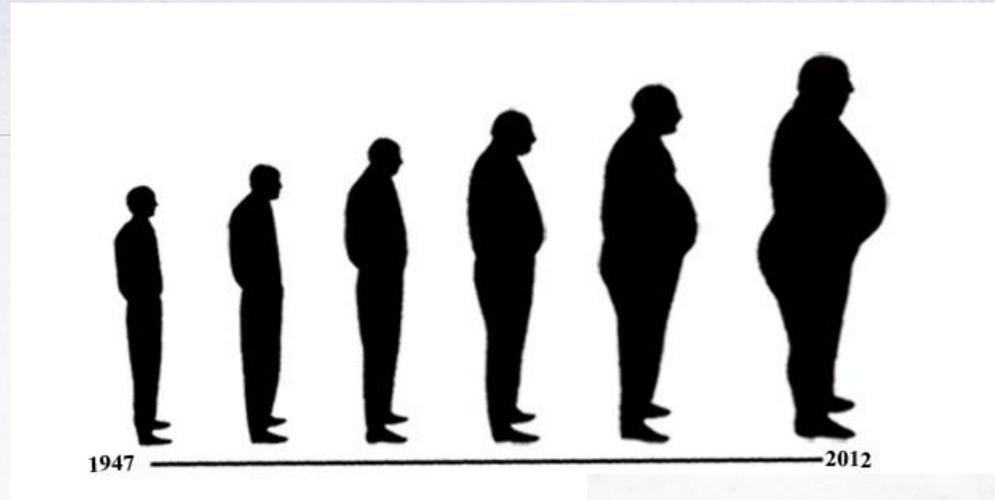
Narayana Hrudayalaya Hospitals is now Narayana Health

NEUROSCIENCES—BRAIN AND SPINE CARE

EMERGENCY NEUROSURGERY

- **HEAD TRAUMA**
- **CEREBRO VASCULAR DISEASE**
- **SPINE TRAUMA**
- **PERIPHERAL NERVE INJURY**
- **ACUTE DISC PROLAPSE**
- **BRAIN TUMOUR**

LIFESTYLE



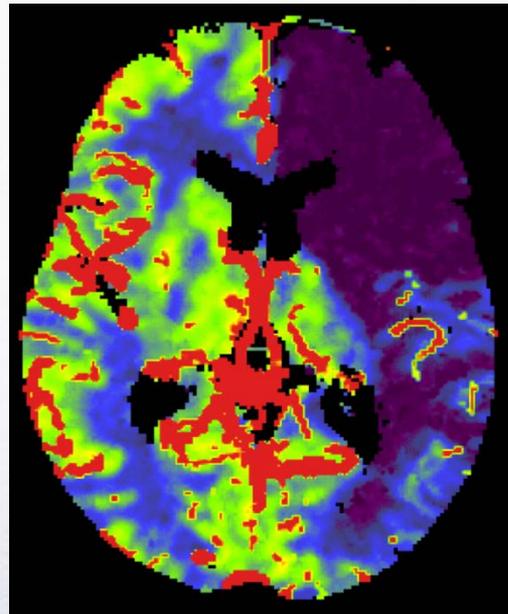
Life style

Brain &



Spine

BRAIN STROKE



What is stroke?

1.WHO

A NEUROLOGICAL DEFICIT OF
Sudden onset

With **focal** rather than global dysfunction

In which, after adequate investigations, symptoms are **presumed to be of non-traumatic vascular origin**

and last for >24 hours- **FEW WEEKS TO MONTHS**

2. TIA- Transient Ischemic Attacks- **SHORT LASTING**

Neurological deficit of vascular origin lasts from few minutes to hours and **resolves within 24 hours**



STROKE and EMERGENCY Rx



Act F. A. S. T

Stroke or mini-stroke (transient ischemic attack – TIA).

F -Facial weakness: Can the person smile? Has their mouth or an eye drooped?

A -Arm weakness: Can the person raise both arms?

S -Speech problems: Can the person speak clearly and understand what you say?

T -Test all three signs.

REFERENCE : NICE CLINICAL GUIDELINES- STROKE

EVIDENCE LEVEL 1 B



How to confirm Stroke ?

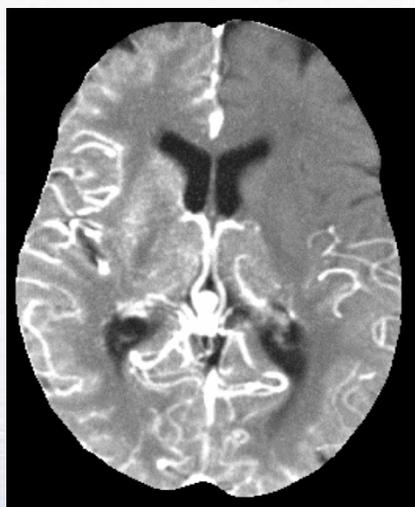


CT SCAN 3 hours of Ischemic Stroke

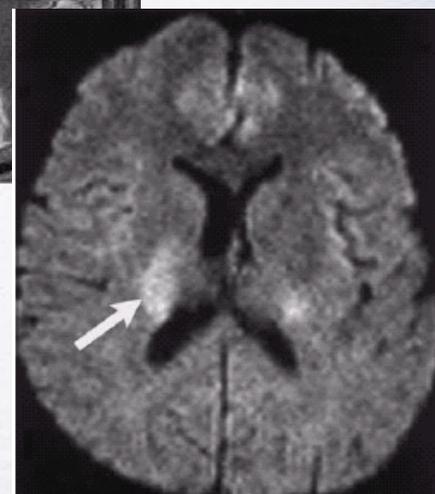


CT SCAN 24 hours later

PERFUSION CT SCAN



MRI DWI

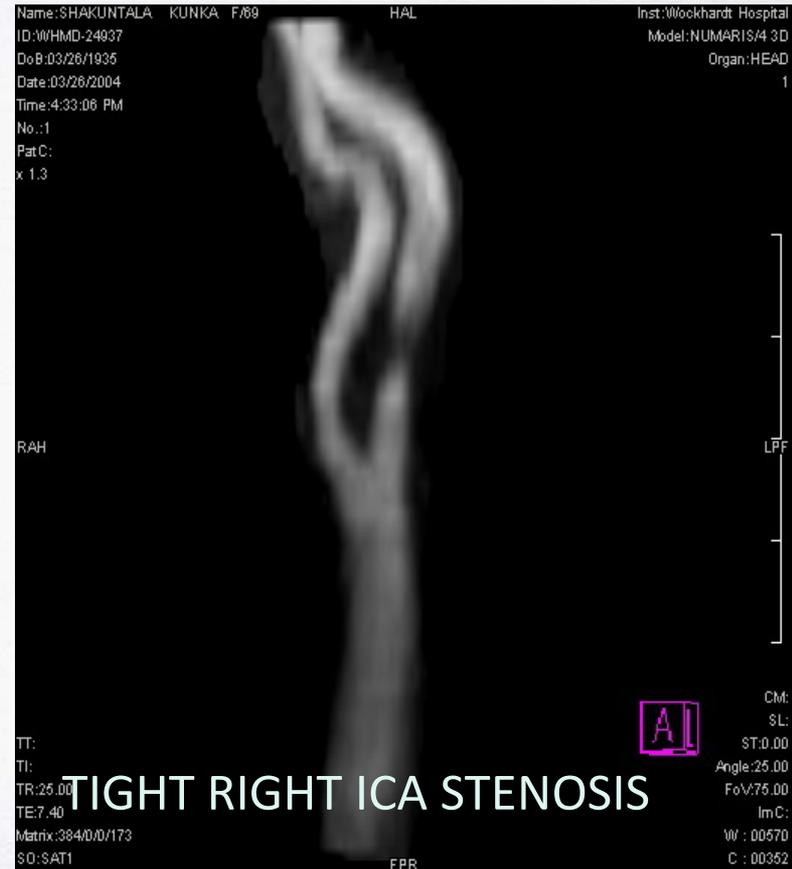
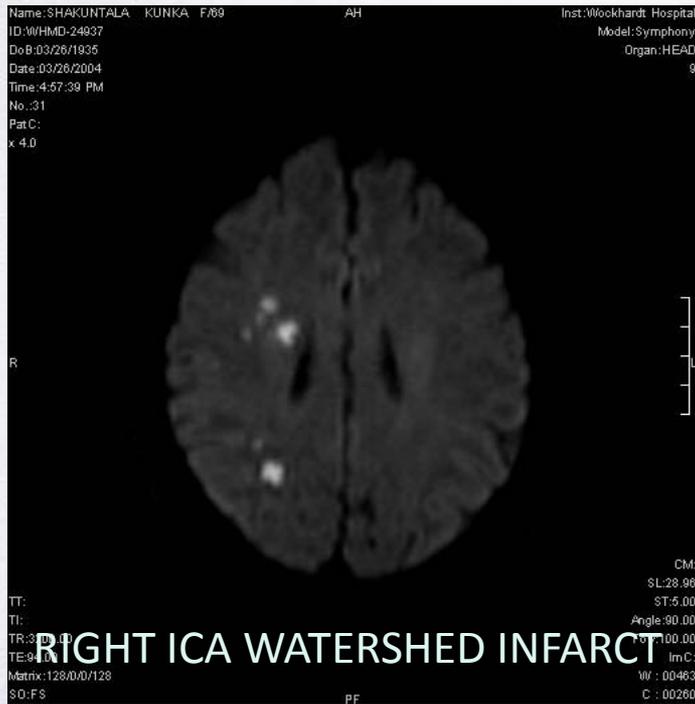


DETECTION WITHIN 30 MIN
OF ISCHEMIC STROKE



How to confirm Stroke ?

TIA



TIGHT RIGHT ICA STENOSIS

How to treat Stroke ?



General Management:

Blood Pressure management in Acute stroke:

- Manage the A B C s.
- Do not try to normalize BP
- For Ischemic stroke keep BP high- 80-110 MAP
- For Hemorrhagic Stroke keep BP lower- 80- 100 MAP
- IV Labetalol 10-20-mg over 1-2 min , if BP uncontrolled
- Treat other symptoms – headache, nausea, vomiting
- Treat hypoxia, seizures, hypoglycaemia
- Treat Raised ICP



Specific Management:



A. Ischemic Stroke

- † IV t-PA within 3-4.5 hrs- “*clot busters*”
- † Anticoagulants- DVT prophylaxis
- † Microsurgical Carotid Endarterectomy
- † Carotid Angioplasty/ Stenting

B. Hemorrhagic Stroke

- † Evacuation / Decompressive Surgery
- † Thrombolysis by Urokinase / t-PA- especially intraventricular bleed
- † Aneurysm- Clipping/ Endovascular coiling



SURGICAL EVACUATION OF STROKE HEMORRHAGE

COMPLETE RECOVERY

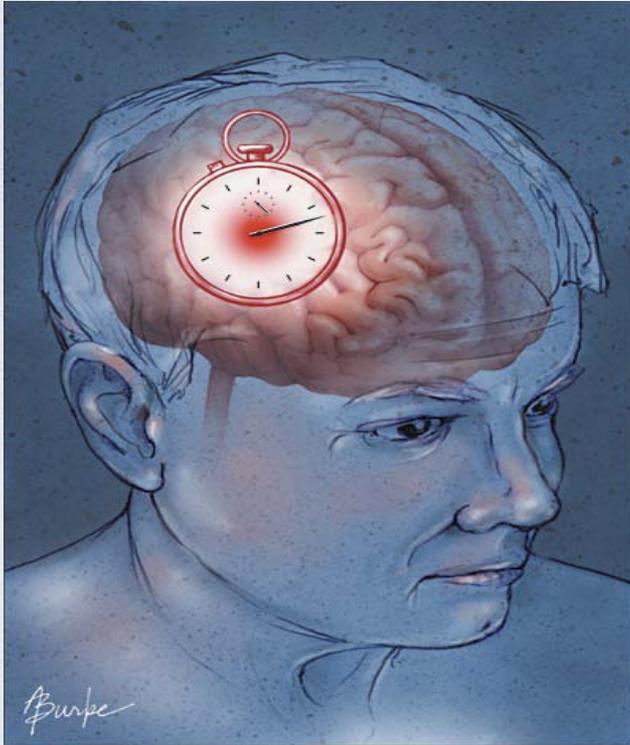
PRE OP



POST OP



ISCHEMIC STROKE



Time Is Brain

For every minute that an AIS goes untreated, 1.9 million neurones, 14 billion synapses and 7.5 miles of myelinated fibers are destroyed.

For every hour that treatment is delayed, the ischemic brain ages 3.6 years





In India-

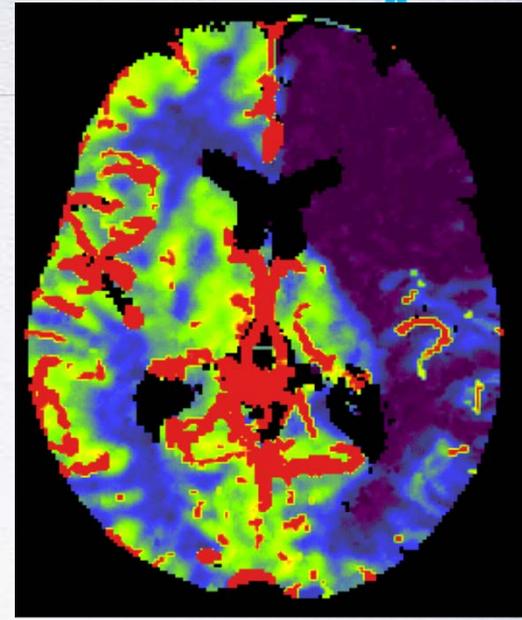
- Prevalence in Urban: 334-424 per 100,000 population
Rural: 84-262 per 100,000 population
- Incidence : 119-145 per 100,000 population

Increasing in Young adults

- Cardiac disease
- Smoking
- Alcohol
- Hypertension
- Diabetes
- Family history
- Overweight(BMI > 25)

What is the impact of Stroke?

- † MAJOR GLOBAL PUBLIC HEALTH CONCERN
- † MAIN CAUSE OF DISABILITY IN ADULTS
- † SECOND COMMONEST CAUSE OF DEATH (WHO 2003)
- † FIFTY PERCENT ARE DEPENDENT ON DAILY ACTIVITIES
- † AMONG THE TOP 4 CAUSES OF DEATH IN ASEAN COUNTRIES



STROKE UNIT



Changing concepts Stroke management:



Stroke is a **preventable** and **treatable** disease



More effective **evidence** based primary and secondary **prevention** strategies



Evidence of **interventions** that are effective soon after the onset of symptoms



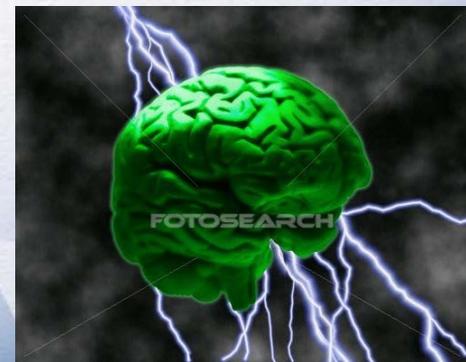
Understanding of the **care processes** that contribute to a better outcome has improved



STROKE EARLY DETECTION

Warning Signs of Stroke:

- † Sudden weakness or numbness of arm or leg, especially on one side
- † Sudden confusion, trouble in speaking or understanding
- † Sudden trouble in seeing in one eye
- † Sudden trouble walking, dizziness, loss of balance or coordination
- † Sudden severe headache



STROKE PREVENTION



Stroke risk Factors that Cannot Be Treated

Age

Sex

Race

Prior stroke

Family history

Stroke risk Factors that CAN Be Treated

Hypertension & Diabetes

Stress

Heart disease

Transient Ischemic Attacks

Elevated blood Cholesterol/ Lipids

Asymptomatic Carotid bruits

Smoking

Heavy Alcohol consumption

LIFE STYLE DISEASES PREVENTABLE



EAT HEALTHY



EXERCISE REGULARLY



ELIMINATE STRESS



Life style

Stroke Prevention

DIET

MEDITERRANEAN DIET



Life style

Stroke Prevention:

**"The secret to living
well and longer is:
Eat half. Walk double.
Laugh triple and love
without measure."**

Tibetan proverb

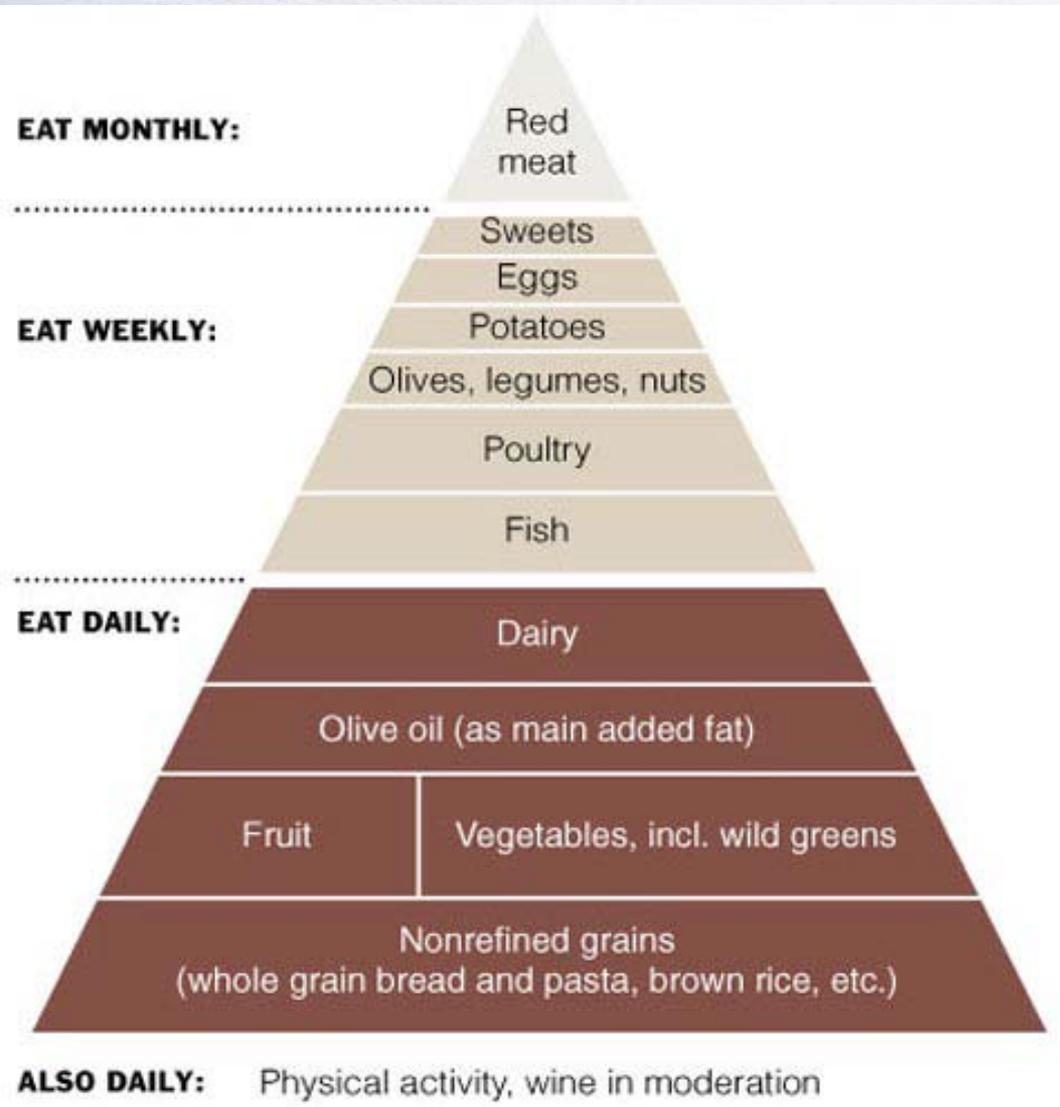
Lessons
LEARNED
Life



DIET:

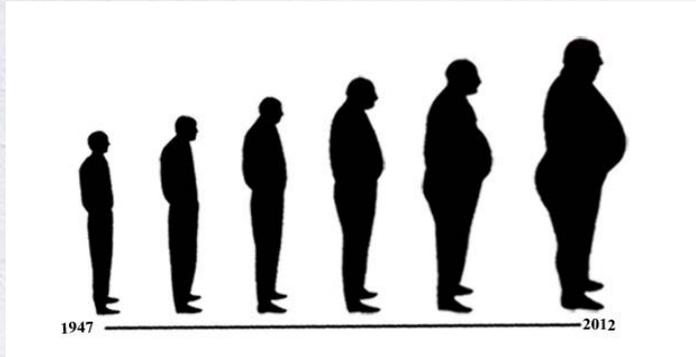


MEDITERRANEAN DIET



Life style

Stroke Prevention



30 minutes of exercise x 5 per week

10,000 STEPS DAILY

EXERCISE REGULARLY



POWER WALK



Google App:
Fit



Lifestyle

Warning :

“ Sitting is the new Smoking”

Warning :

Sitting is the new Smoking



How sitting wrecks your body:

- Electrical activity in the leg muscles shuts off
- Calorie burning drops to 1 per minute
- Enzymes that help break down fat drop by 90%
- Good cholesterol drops by 20%
- Bad posture leads to spinal pain

Physical features

1. Waist / Hip ratio:

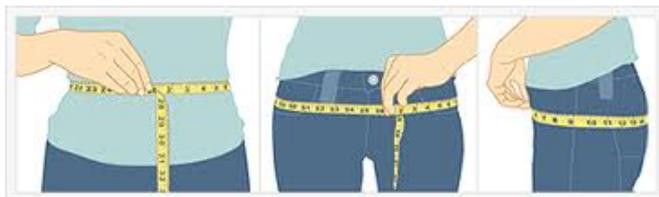
2. Body Mass Index: BMI

weight in kg/ (height in meters)² x 100)

How do I measure waist-to-hip ratio?

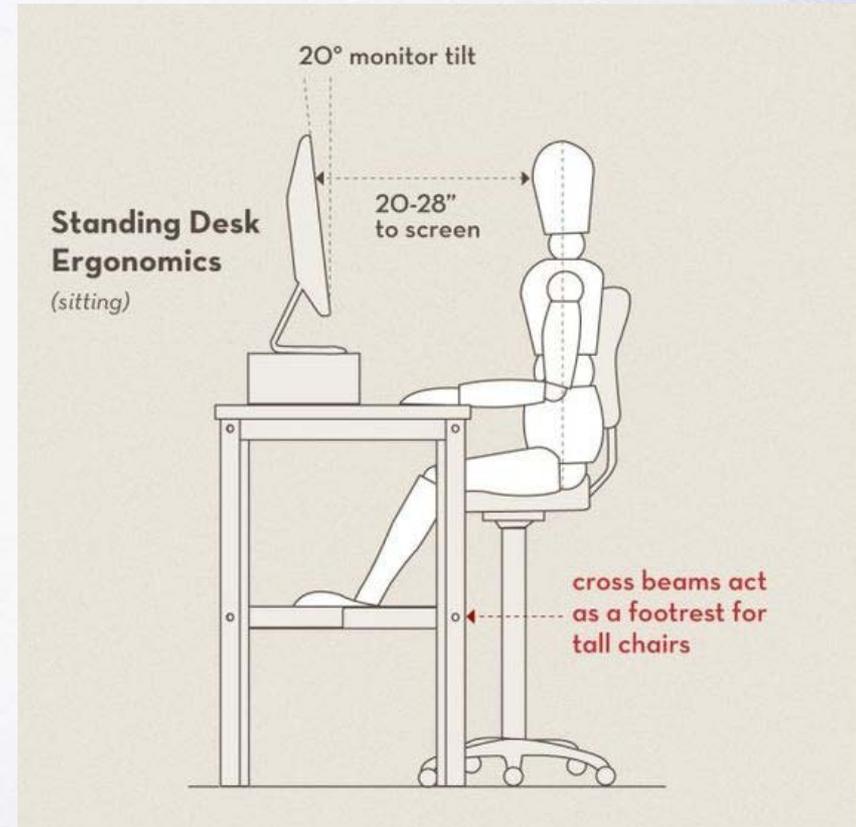
Use an ordinary tape measure and:

- Measure your waist at its narrowest (usually around the belly-button or just above it).
- Measure your hips at the widest part around your buttocks.



Men	Women	Health Risk Level
0.95 or less	0.80 or less	Reduced Risk
0.96 to 1.0	0.81 to 0.85	Elevated Risk
1.0 or higher	0.85 or higher	High Risk

OFFICE ERGONOMICS



Exercise by walking your dog



LEARN TO RELAX AND SHARE MOMENTS



STRESS ELIMINATION

- ✦ TAKE UP A HOBBY
- ✦ GO FOR WALKS WITH FAMILY / FRIENDS
- ✦ VOLUNTEER FOR COMMUNITY SERVICE
 - ✦ DEEP BREATHING EXERCISES
 - ✦ STRETCH EXERCISES



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NEUROSCIENCES—BRAIN AND SPINE CARE

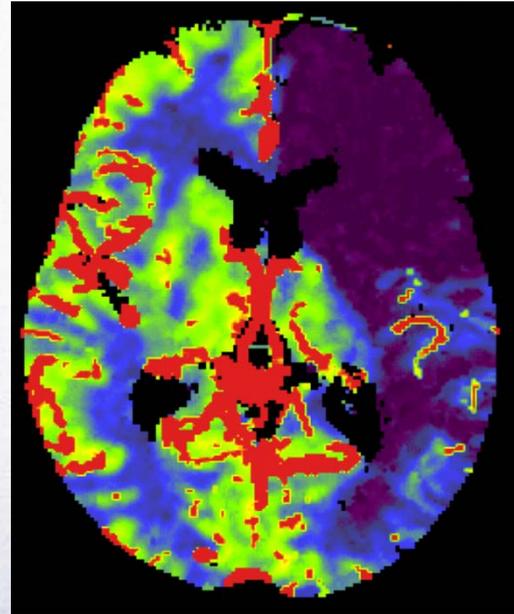


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NEUROVASCULAR AND STROKE PROGRAM





TEAM AVAILABLE: 24X7
NEURO PHYSICIANS
NEUROSURGEONS
NEURODIAGNOSTICS-CT,MRI
NEUROANESTHESIST & CRITICAL CARE
NEURO ITU WITH HDU
NEURONURSES FOR TRAUMA & STROKE



PART II

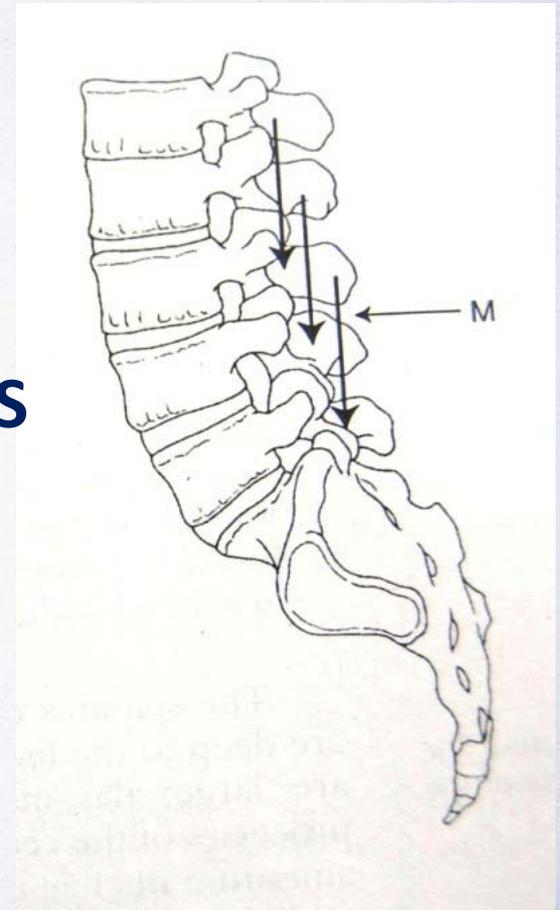


SPINAL PAIN



LOW BACK PAIN

SCHOOL CHILDREN TO SENIOR CITIZENS
INDIAN IT PROFESSIONALS - 76%
POINT PREVALENCE - 6.1% - 31%
HOSPITAL OPD - 23.9 %
URBAN + RURAL



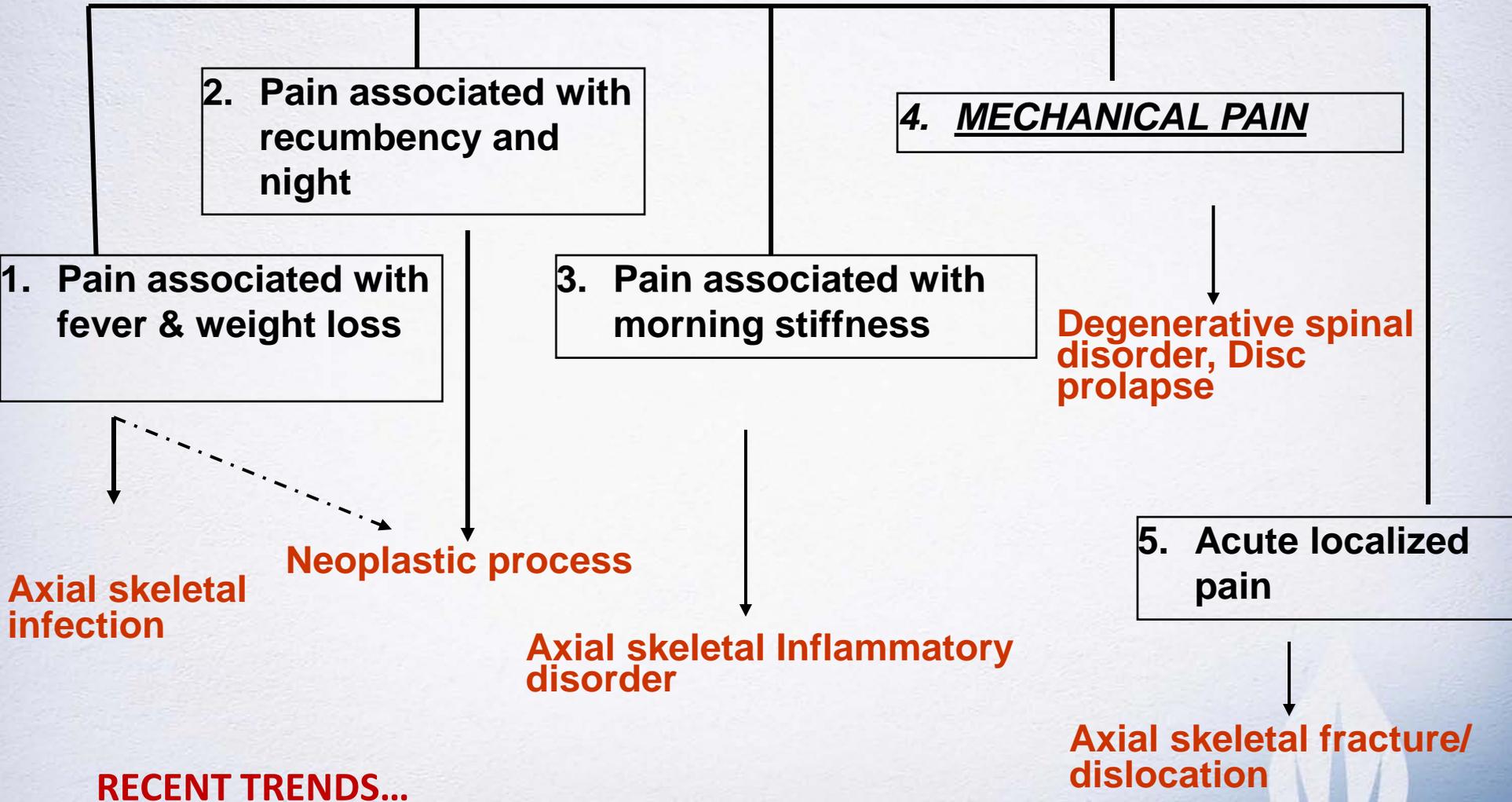
SPINAL PAIN

75 to 85 percent of all people will experience some form of back pain during their lifetime

-  the **second** most frequently reported reason for visiting a doctor,
-  the **fifth** most frequent cause of hospitalization and
-  the **third** most frequent reason for surgery.



Spinal or Radicular pain + Neurological deficit



MECHANICAL LOW BACK PAIN



Pain that is Initiated and Exacerbated by activity but without constitutional symptoms and signs .

CHRONIC & RECURRENT

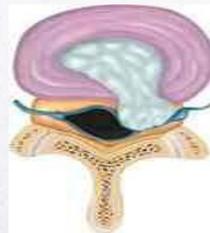
Musculo ligamentous strain
(MYOFASCIAL SYNDROME)

Degenerative Disc Disease (DDD)



ACUTE

Disc Prolapse/ “Slip Disc”



Majority: Mechanical in nature



Acute

Chronic

Musculo ligamental strain

Degenerative Disc

Discogenic

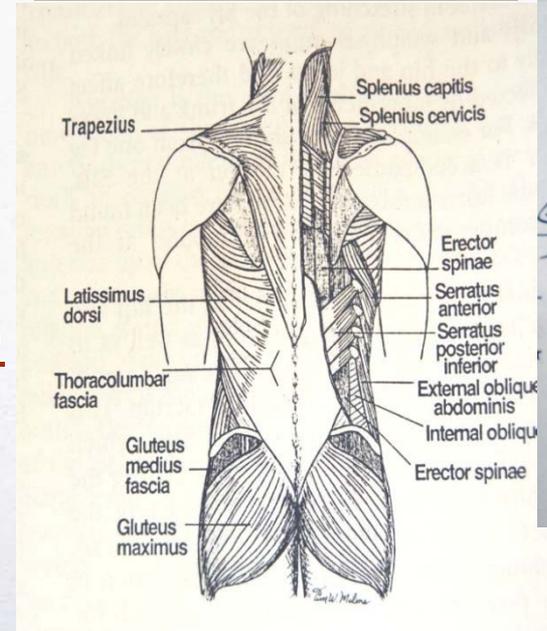
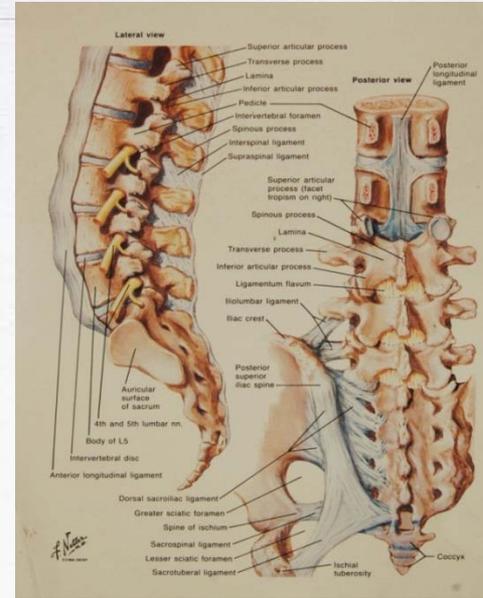
Sacroilitis

Infective-Tuberculosis(TB)

Metabolic

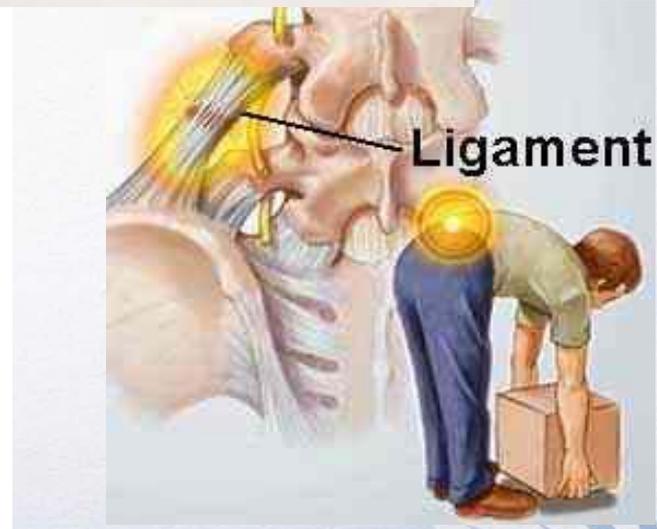
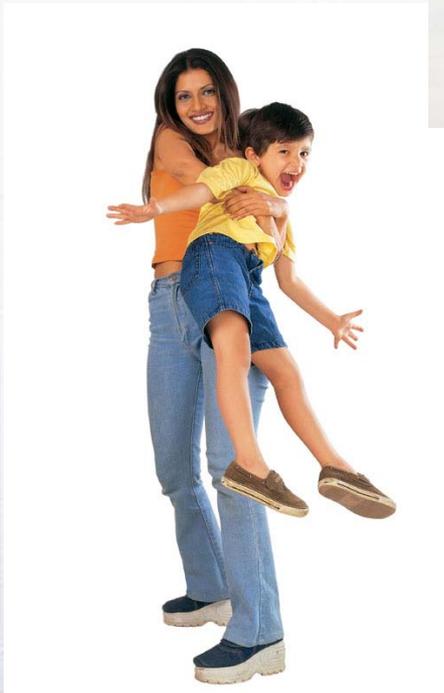
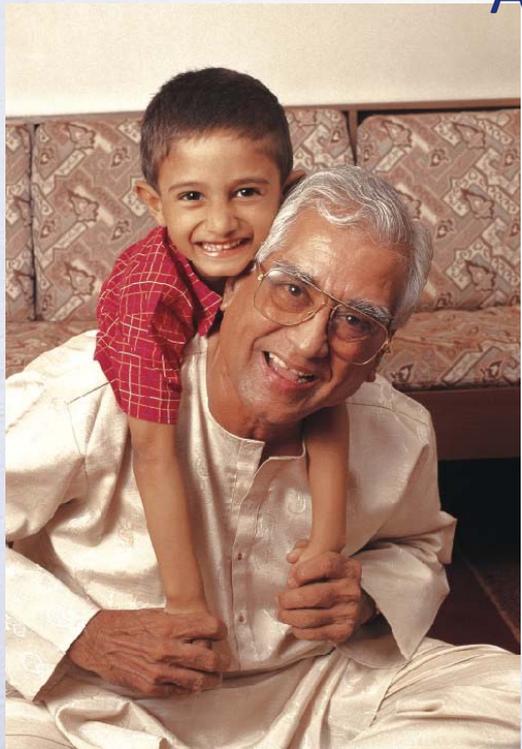
Old Trauma

Cancer patients



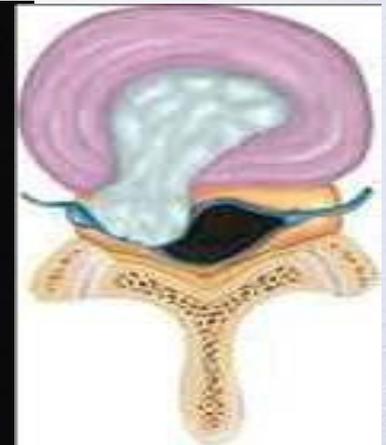
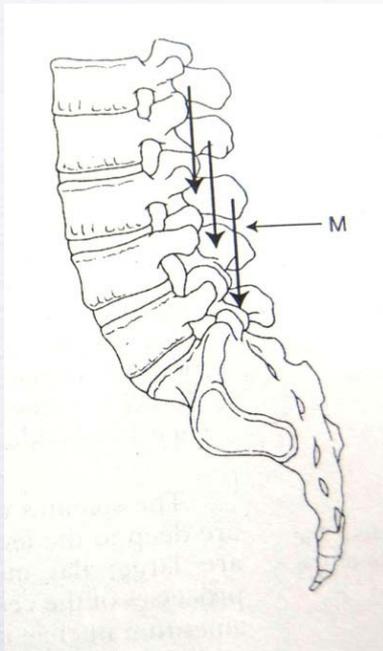
LOW BACK PAIN- CHRONIC RECURRENT

- Sprain
- Strain
- Obesity
- Ageing



BEST MODALITY FOR INVESTIGATION

MAGNETIC RESONANCE IMAGING (MRI)



TREATMENT SPINAL PAIN

LOW BACK PAIN

NECK PAIN

MAJORITY IMPROVE WITH CONSERVATIVE TREATMENT

(90%) 3-6 WEEKS



Lifestyle and Spinal Pain

How to Prevent / Treat ?



Prevention/ Treatment Protocol

Life Style Changes
Posture Control

Physical therapy

Encourage Physical Activity

Heat therapy- Ultrasonic therapy/
IFT/TENS

NSAIDs +/- Muscle Relaxants
Neurotropic Drugs
NSAID Gel + Ice / warm pack



Chronic Recurrent Low Back Pain



† Life Style Changes

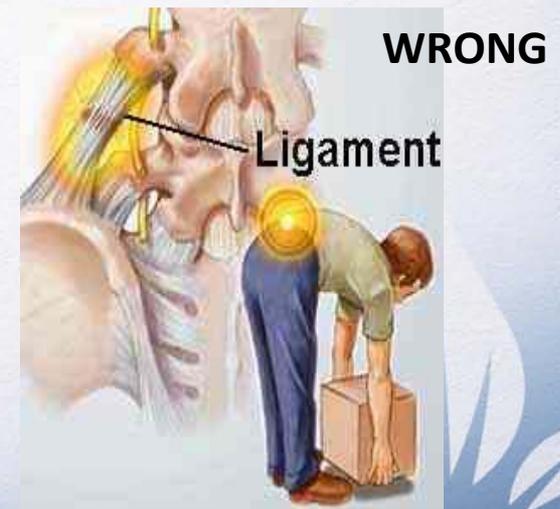
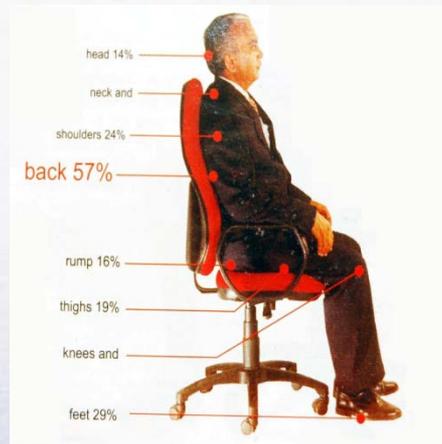
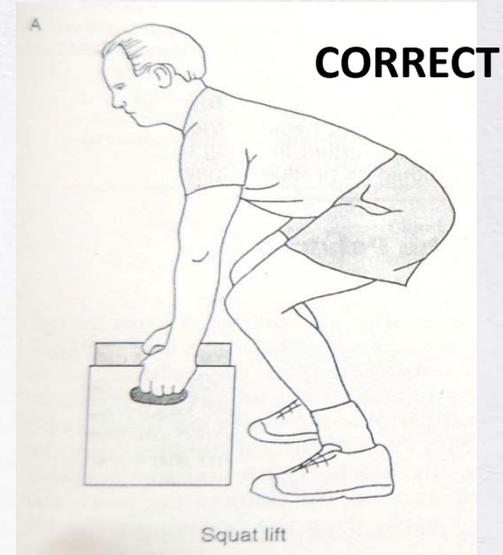
Precautions

Increase Physical Activity

Weight Reduction

† Posture Control

In all phases of Day to Day living



Life Style Changes & Posture Control

Sleeping



Sitting

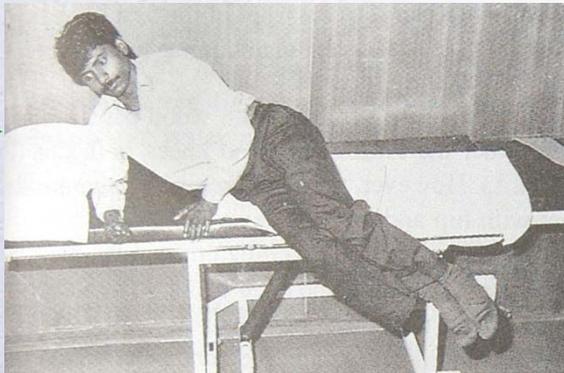
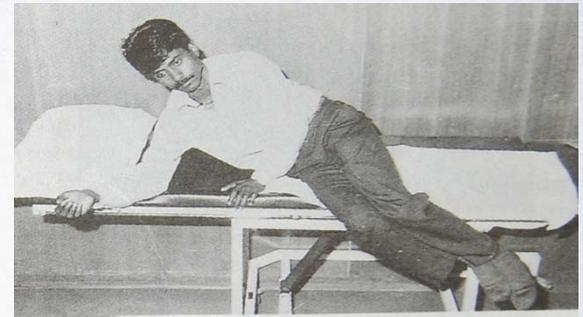


S



Life Style Changes & Posture Control

Supine to Standing



Life Style Changes & Posture Control



C

C

S



Chronic Recurrent Low Back/ Neck Pain



Prevention/ Treatment Protocol

Life Style Changes

Posture Control

Physical therapy

Encourage Physical Activity

**Heat therapy- Ultrasonic therapy/
IFT/TENS**

NSAIDs +/- Muscle Relaxants

Neurotropic Drugs

NSAID Gel + Ice / warm pack



Who needs surgery ?

Majority DO NOT

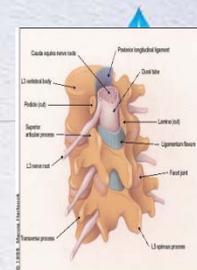
Myth: Most back problems eventually require **Surgery**.

Fact: Fewer than one person in 1,000 with low back pain

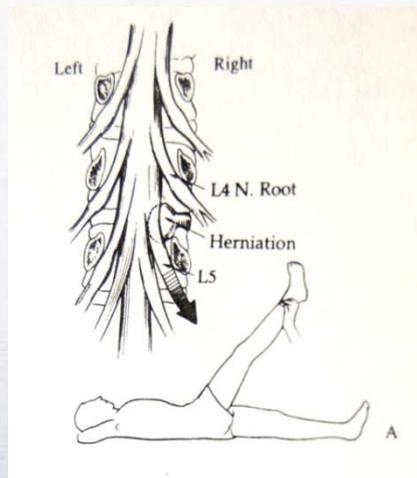
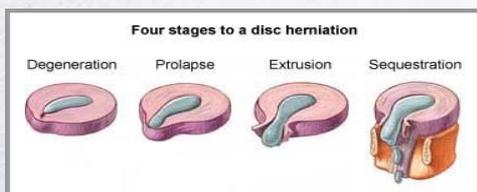


SPINAL PAIN – LOW BACK / NECK PAIN

Who needs Surgery?



- Intractable Pain- Radicular > Back
- Progressively worsening Neurological Deficit
- Recurrence of Pain
- Cauda Equina Syndrome-Emergency



MINIMALLY INVASIVE POSTERIOR LUMBAR DISC SURGERY

Microsurgical Techniques-

Discectomy

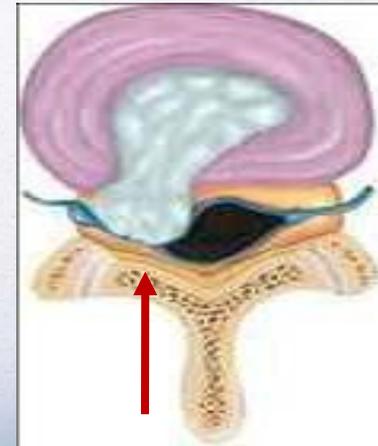
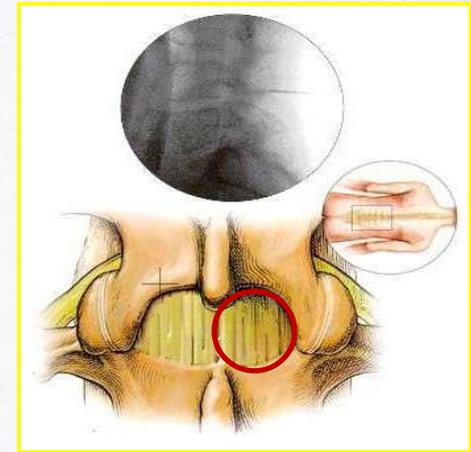
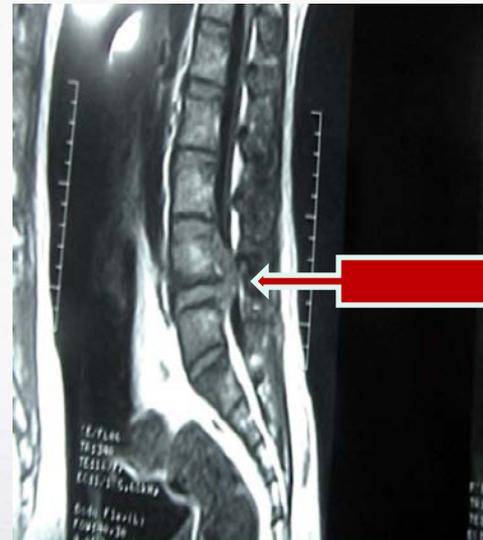
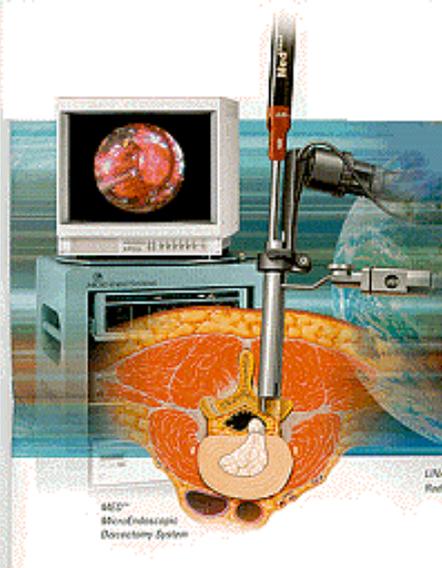
Flavectomy

Fenestration

Facetectomy

MICROSCOPE

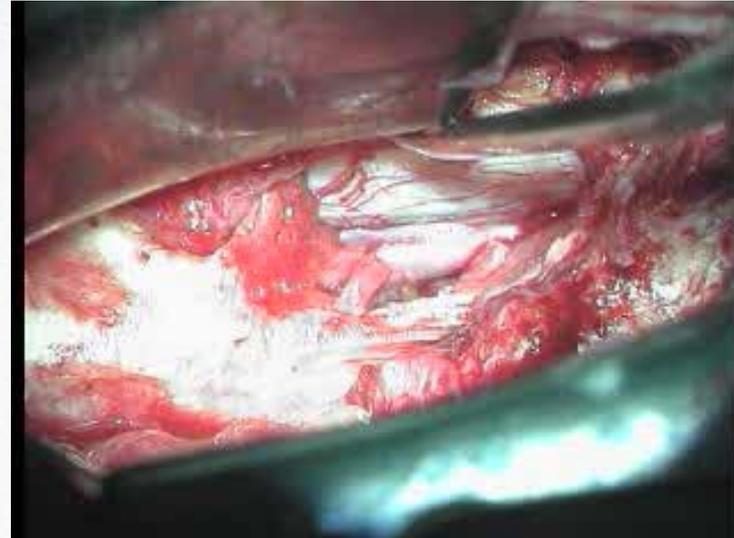
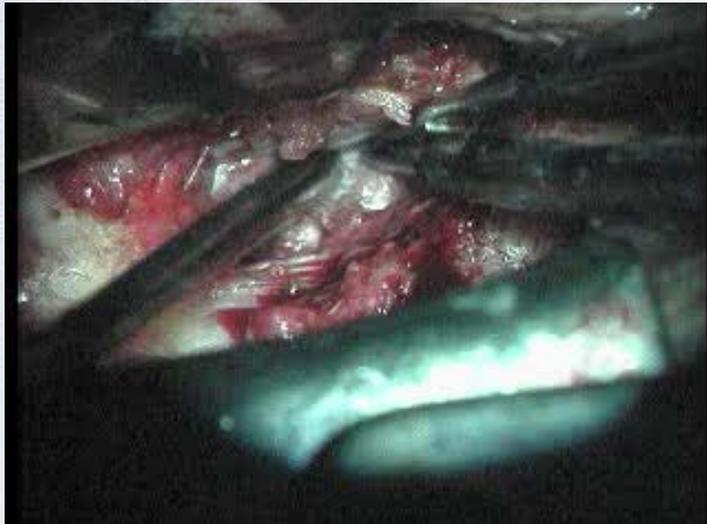
ENDOSCOPE



Minimal Access Spine Technology
MAST

Lumbar Disc Prolapse

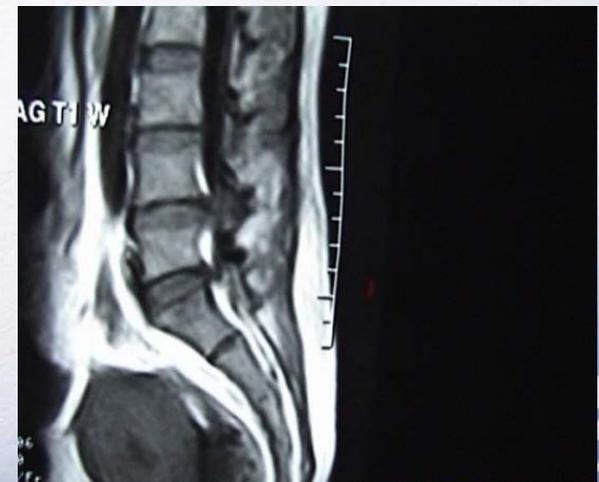
Minimal Access Spinal Surgery



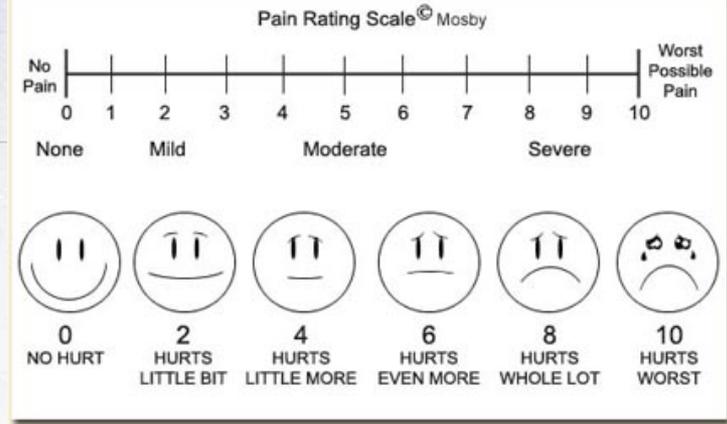
OPERATION UNDER HIGH MAGNIFICATION USING CARL ZEISS MICROSCOPE



L4-5 Disc Herniation



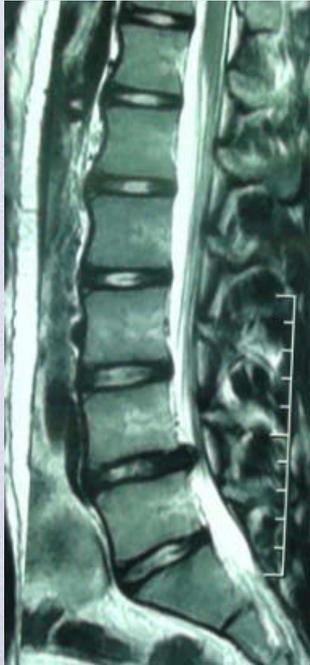
Minimally Invasive Spinal Surgery



SPINAL PAIN + GAIT ABNORMALITY

POSTURE CONTROL DURING

STUDYING, LEISURE ACTIVITIES



OUTCOME OF TREATMENT?

Myth: Everyone has a low back pain. It is something that has to be endured until it becomes disabling.

Fact: Getting help early is very important to successful treatment because it can reduce the number of times back pain recurs.



ASSESSMENT OF DISABILITY IN PATIENTS OF LOW BACK PAIN

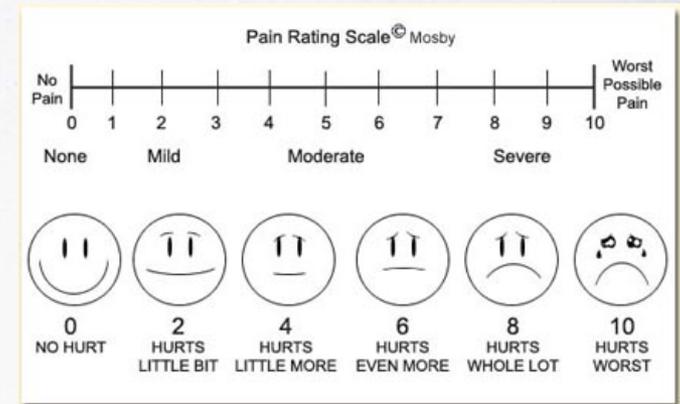


REVISED OSWESTRY DISABILITY INDEX (ODI)

QUESTIONNAIRE: 10 POINTS

- PAIN INTENSITY
- PERSONAL CARE
- LIFTING OF WEIGHTS
- WALKING
- SITTING
- STANDING
- SLEEPING
- SOCIAL LIFE
- TRAVELLING
- CHANGING DEGREE OF PAIN

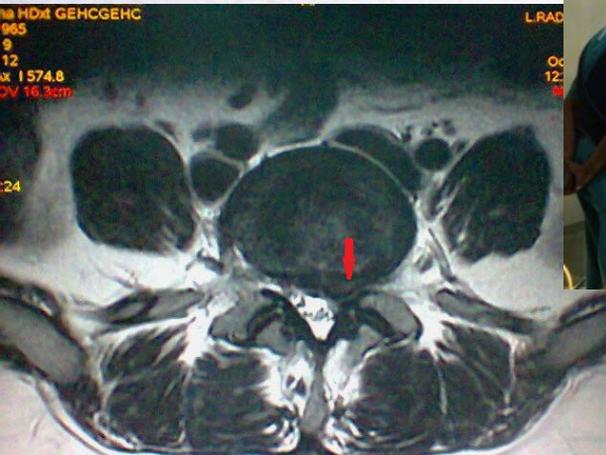
PAIN SCORE: VISUAL ANALOG SCALE



DISABILITY SCORING 0-50 (0-100%) : PRE AND POST RX

Low Back Pain

Lumbar Disc Prolapse



RD,35Y F
RADICULAR PAIN WITH L5
RADICULOPATHY
90% DISABILITY(ODI)
DISC PROLAPSE NO STENOSIS



POST OP
COMPLETE RECOVERY
POST OP ODI 4%



SPINAL PAIN

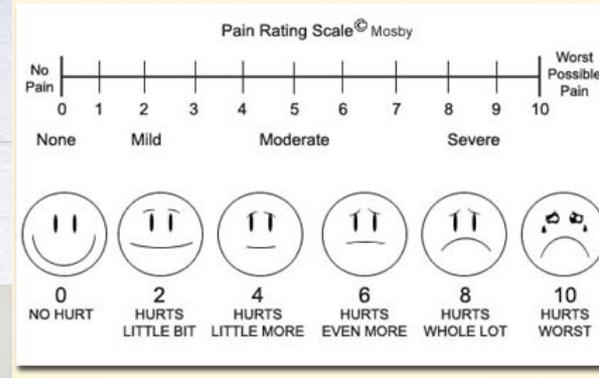
Minimally Invasive Spine Surgery MISS



LUMBAR SPINE SURGERY

CANAL STENOSIS/ DISCECTOMY

32 YRS F,
PAIN LB WITH LEG PAIN- 1 YR
OBESE – 91 KG



POST OPERATIVE



NECK PAIN

CERVICAL DISC & SPONDYLOSIS



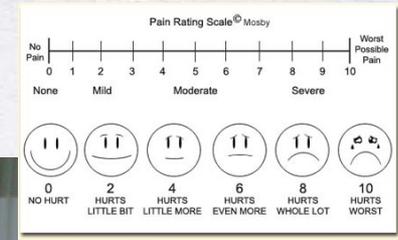
Severe Neck and Lt arm pain



Not relieved with Rx



**ANTERIOR CERVICAL
MICRODISCECTOMY
& FUSION**



**COMPLETE PAIN RELIEF
NEXT DAY**

LOW BACK PAIN

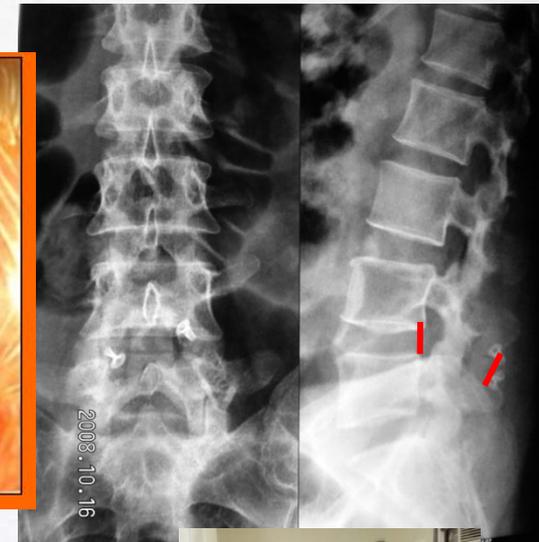
Degenerative Disc Disease - Increased Micromotions

Dynamic Stabilisation- Interspinous

PRE OP



POST OP



LB, 38 YRS , F,
BACK PAIN SITTING, STANDING,
WALKING;NO NEUROLOGICAL DEFICIT



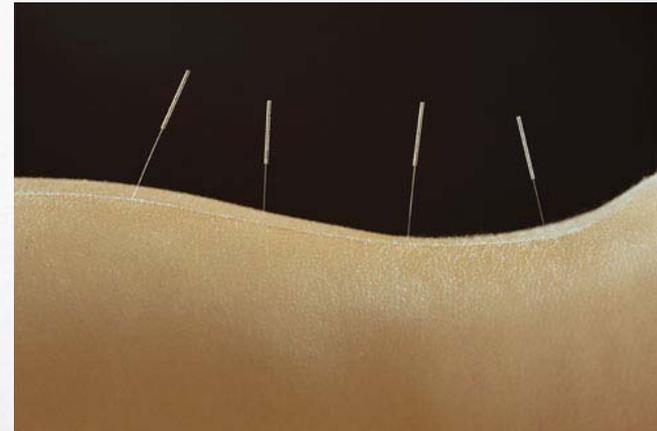
2009.02.08

What is done after surgery ?



† **NEURO REHABILITATION- 24X7**

† **CLINICAL PSYCHOLOGIST**



NEUROSCIENCES
R N TAGORE HOSPITAL
NARAYANA HEALTH , RTIICS



Treatment /Prevention Protocol - Mechanical Pain

Physical Therapy

1. Manipulative Rx-Manual Therapy: Muscle Energy Techniques

2. Muscle Strengthening/ Stretching Exercises:

Deep Abdominal muscles - Internal Oblique
- Transverse Abdominis

Lumbar- Multifidus Muscles

NEUROREHABILITATION TEAM



Under the Supervision of a Therapist

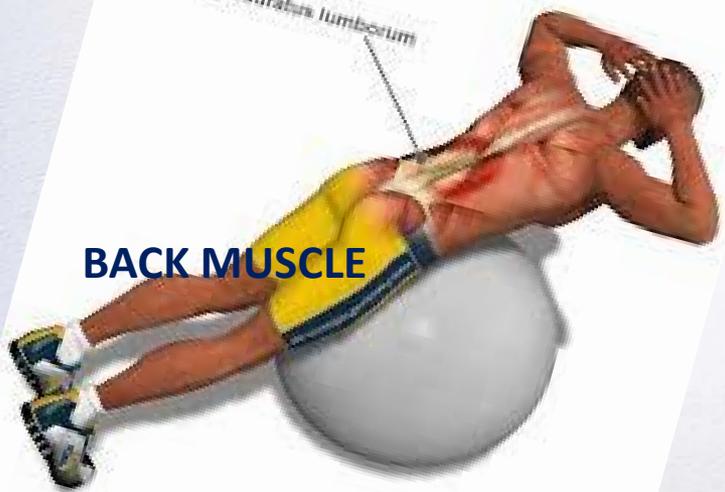


OBLIQUE MUSCLE EXERCISES



Quadratus lumborum

BACK MUSCLE



MINIMAL ACCESS (MICROSURGICAL) SPINAL SURGERY

Pain free in 24-48 hrs

Minimal or No post operative Discomfort

Awake Surgery possible

Hospital Stay few hours to 02 days

Safe and Effective

Cost Effective

Minimally Invasive

Maximally Effective



MINIMAL ACCESS SPINE SURGERY (MICROSURGICAL)

**COSMETICALLY SUPERIOR
BACK TO WORK IN DAYS
EXTREMELY SAFE SURGERY**



NEUROSCIENCES PROGRAM

COMPREHENSIVE STROKE CARE- STROKE UNIT

COMPREHENSIVE EPILEPSY CARE- VIDEO EEG LAB

COMPLEX BRAIN & SPINAL TUMOUR SURGERY

MINIMAL ACCESS SPINE SURGERY

STEREOTACTIC & FUNCTIONAL NEUROSURGERY

NEUROEMERGENCY 24X7 FOR STROKE & TRAUMA





**Institute of Medical Sciences
Benares Hindu University
Varanasi**



Become a Global
Leader in Medical
Devices Development,
High Quality Patient
Care, and Health
Sciences Studies by
2020....

**Sree Chitra Tirunal Institute of Medical Sciences &
Technology
Trivandrum, Kerala, India (south)**

Let the waves of the universe rise and fall as they will.
You have nothing to gain or lose.

You are the ocean.

-Ashtavakra Gita



LIFESTYLE DISEASES AFFECTING

BRAIN AND SPINE

ARE PREVENTABLE



stress elimination



The Moment Of Calm
A Global Foundation Program

MOMENT OF CALM



Hours that forgive make earth
a peaceful place to live

Best Prayanayam for fantastic life...

Inhale the future
without any expectation.
Hold the present and
Exhale the past without regret.



Quality time with
family & friends



LIFESTYLE



→ MONITOR DIET

→ EXERCISE REGULARLY

BMI

Waist/Hip Ratio



Category	BMI range – kg/m ²	BMI Prime
Very severely underweight	less than 15	less than 0.60
Severely underweight	from 15.0 to 16.0	from 0.60 to 0.64
Underweight	from 16.0 to 18.5	from 0.64 to 0.74
Normal (healthy weight)	from 18.5 to 25	from 0.74 to 1.0
Overweight	from 25 to 30	from 1.0 to 1.2
Obese Class I (Moderately obese)	from 30 to 35	from 1.2 to 1.4
Obese Class II (Severely obese)	from 35 to 40	from 1.4 to 1.6
Obese Class III (Very severely obese)	over 40	over 1.6

STRESS ELIMINATION



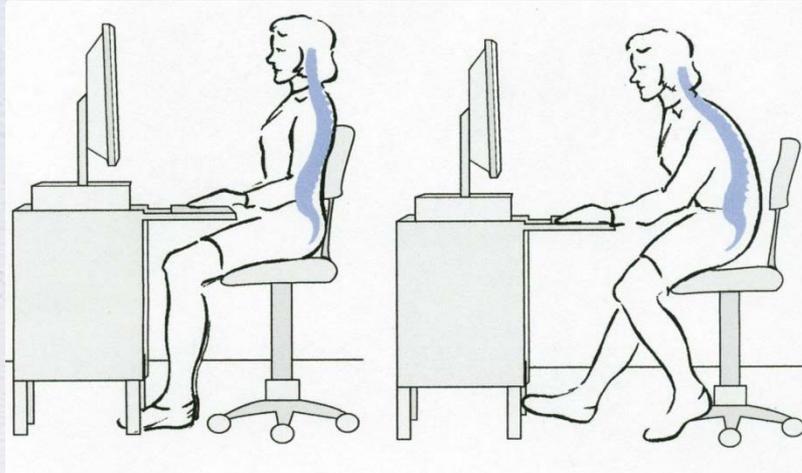
MUSIC

WALK

QUALITY TIME FAMILY & FRIENDS



LIFE STYLE AND POSTURE



LIFE STYLE & ATTITUDE

The Secret to happiness is a good sense of humor and a bad memory.



www.facebook.com/ShutUpImStillTalking

SMILE MORE OFTEN



TAKE TIME OUT TO RELAX



Thank you for your time & your attention



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