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## The Rude Awakening: I Kid You Not

By Isaac Lee



Human kidneys are bean-shaped organs located near the middle of the back on both sides where they are protected by lower ribs and cushioned by the surrounding muscles and fat. Each kidney has about one million nephrons, which are tiny, filtering units. In the nephrons, capillaries or tiny blood vessels intertwine with tubules, which are urine-carrying tubes. **The nephrons make it possible for the kidneys to filter the body's entire blood supply every two minutes.**

Kidneys mainly process the waste products and excess fluid in your blood. The waste products result from our body's metabolic processes. In addition, waste is also a by-product of the food we eat. Our body uses food for energy and self-repair. After it has absorbed what it needs from the food, the remaining waste products are sent to the blood.

A complicated chemical exchange takes place as the blood is filtered by the nephrons. **The filtering process removes the waste, toxins and excess water from the blood to form urine.** Urine flows from the kidneys to the ureters and then stored in the bladder until we urinate.

Kidney failure or End-stage Renal Disease (ESRD) is defined as a state when the kidneys do not function properly or sufficiently, resulting in the **accumulation of waste products and toxic materials.**

**When toxic wastes build in the blood, they may cause permanent and irreversible damage to body cells, tissues and organs.** Thus, in order to survive, kidney function needs to be replaced either through dialysis or transplant.

A person can stay healthy with just one kidney. Individuals with kidneys that function below 20% of their required capacity, however, need some form of renal replacement therapy.

Singapore has the **fifth highest incidence of kidney failure in the world.** Every day, four people lose the use of their kidneys in Singapore, which means over 1,400 cases of kidney failure a year!

Diabetes and high blood pressure are the two leading causes of kidney failure. The incidence is alarming with **1 in every 9 adult Singaporeans is afflicted with diabetes and 1 in every 4 adult Singaporeans has high blood pressure.** While the National Health Survey 2010 revealed that the prevalence of these chronic diseases has declined, the large absolute number of patients is a potential time bomb. About 60% of new cases of end-stage renal disease (ESRD) were due to diabetes.

Symptoms of kidney failure includes:

- Decreased urination
- Blood in the urine
- Nausea and vomiting
- Swollen hands and ankles
- Loss of appetite
- Puffiness around the eyes
- Itching
- Sleep disturbances
- High blood pressure

If the kidney damage is in the early stages, it can be controlled with medication and diet. However, there is no recovery from End Stage Renal Disease (ESRD).

There are two ways to treat ESRD:

### **Kidney Transplant**

Kidney transplant is the process where a kidney is surgically removed from a donor and implanted into the patient. The patient may receive a kidney from a family member, a spouse or a close friend. Transplant is by far the best means of treatment, as the "replacement kidney" can substitute almost fully the lost functions of the failed kidneys, and allow the patient to lead a normal life.

Kidney transplant would be the best treatment for end-stage renal disease. However, the waiting list for kidney transplant is long.

### **Dialysis**

The word 'dialysis' means filtering, or the selective removal of certain substances from the blood. The idea is that, if by artificial means, we can remove enough of the poisonous wastes, water and salts that have built up due to kidney failure, then a reasonable level of health can be restored.

There are two forms of Dialysis, Haemodialysis , in which a special machine acts as a substitute for the kidneys and Peritoneal Dialysis wherein the body's abdominal lining is used as a filter.



## 7 ways to keep your kidneys healthy

The two leading causes of kidney failure are diabetes and high blood pressure. With one in every nine adult Singaporeans afflicted with diabetes and one in every four adult Singaporeans having high blood pressure, the incidence is alarming.

You can help your kidneys by following these seven tips:

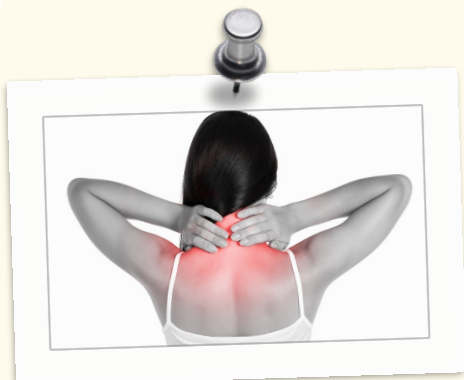
1. Eat food with less salt and fats
2. At least 30 minutes of physical activity five or more days a week
3. Take steps to quit smoking if you do
4. Drink plenty of water and minimise consumption of soft and alcoholic drinks
5. Eat lots of fruits, vegetables, grains and lean meat
6. Do things that help you relax and reduce your stress levels
7. Go for regular blood pressure checkups

Remember, healthy kidneys are not a matter of chance. You can choose to keep them healthy!



# Personal Health: Are you a pain in the neck?

By Aloysius Loh

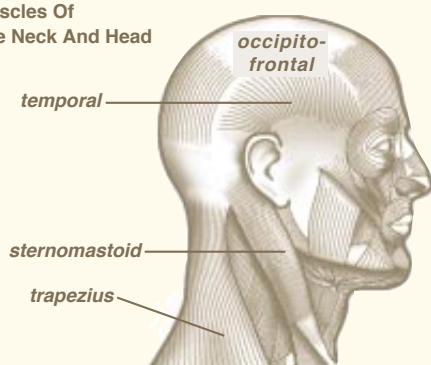


Did you ever wake up with a stiff neck? What about hunched over marking your workbooks or worksheets and feeling neck aches after that?

Don't you wish you know of some quick exercises that will help relieve the tension? Then read on in this issue for Kinetic Herald's contribution to helping you understand more about neck aches and neck care.

## Anatomy Of The Neck Region

Muscles Of  
The Neck And Head



One of the most flexible regions of the spine is the neck (cervical) region, which consists of vertebrae, seven shock-absorbing discs, muscles, and vertebral ligaments to hold them in place. The uppermost cervical disc connects the top of the spinal column to the base of the skull. The spinal cord, which sends nerve impulses to every part of the body, runs

through a canal in the cervical vertebrae and continues all the way down the spine. The cervical nerves spread down into the arms; because of this, arm pain is sometimes traceable to a problem in the neck.

## Possible Causes Of Neck Pain And Headaches

One of the most common causes of neck pain, and sometimes headaches, is poor posture. It's easy to get into bad posture habits without even realising it—even an activity as “innocent” as reading in bed can ultimately lead to pain, headaches, and more serious problems.

The basic rule is simple: Keep your neck in a “neutral” position whenever possible. In other words, don't bend or hunch your neck forward for long periods.



In other words, don't bend or hunch your neck forward for long periods. Also, try not to sit in one position for a long time. If you must sit for an extended period, make sure your posture is good: Keep your head in a neutral position, make sure your back is supported, keep your knees slightly lower than your hips, and rest your arms if possible.

Reading in bed can cause neck strain – especially if you're propped up on several pillows, bending your neck forward, and trying to hold your arms out in order to support the book. If you do read in bed, make it easy on your neck: Consider purchasing one of the products specifically designed for this purpose, such as a wedge pillow to prop up the book or a portable "mini desk." Finally, remember not to stay in any single position too long – our bodies are designed move.

#### Reading In Bed

*A wedge-shaped pillow or a portable "mini-desk" can help reduce neck strain by supporting your arms and helping you keep your neck in a neutral position.*

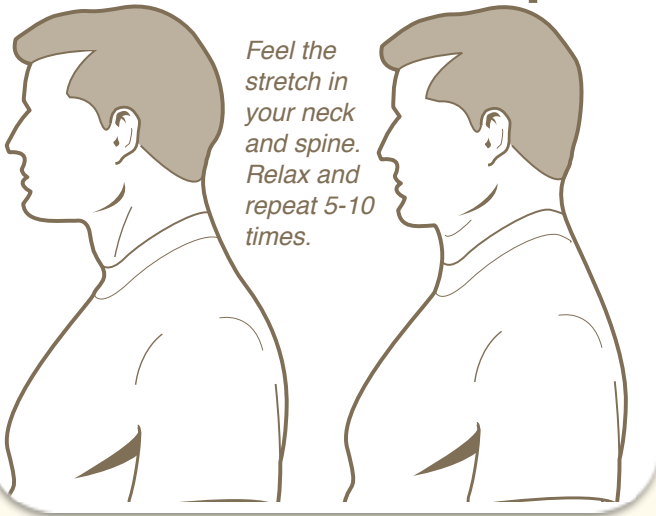


The neutral position rule also holds true for people who spend time working at computer terminals. Again, don't bend your neck forward. Adjust your desk, monitor, and chair to a comfortable height, so that the monitor is at eye level and your knees are slightly lower than your hips. Some people find that a footstool helps in attaining this correct position. Sit close enough to the monitor so that you don't have to bend forward in order to see well. Use the chair's armrests – your arms need support. Wear your eyeglasses if necessary.



## What to do when your neck hurts?

**Standing Tall** Stand in a normal, relaxed posture, then pretend that a string is pulling you straight up from the top of your head.



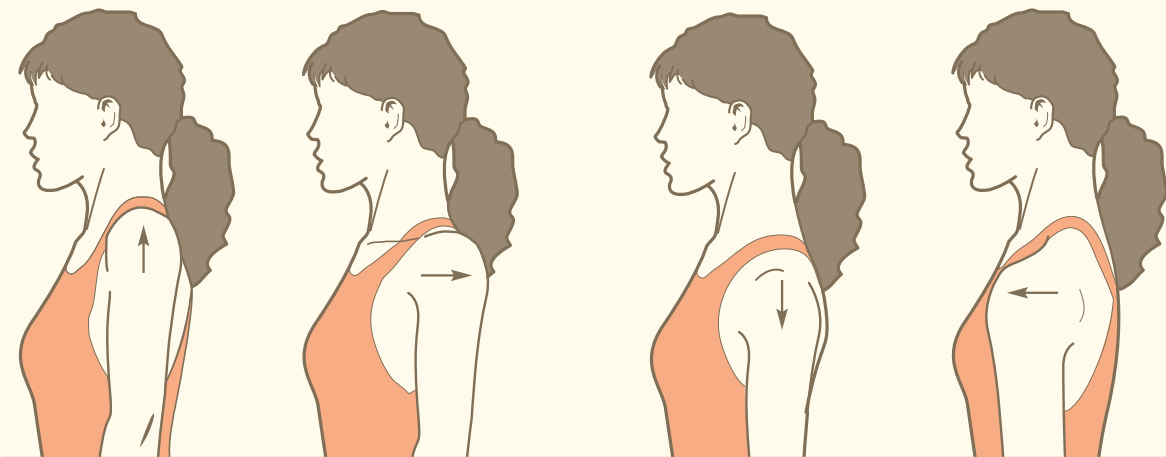
When your neck hurts and no major trauma is involved, rest is the first order of business. But don't stuff too many pillows under your neck— that will only make things worse. The goal is to keep your spine and neck in a neutral position. Make sure that the “gap” between the back of your neck and the bed is filled in by a pillow (or foam support) that keeps your neck in a neutral position.

You can also apply ice or heat. Many physical therapists prefer ice because of its effectiveness in reducing pain and inflammation. (To use ice, fill a plastic bag with crushed ice, place a towel over the affected area, then apply the ice-filled bag to the area.) Heat also provides relief to some people, but should be used with caution because it can sometimes make an inflamed area worse.

Apply heat or ice for 15-20 minutes at a time, and give yourself a 40-minute rest between applications. If you use both heat and ice, make sure to alternate between the two.

Some simple neck and shoulder stretches will also help to alleviate any stresses and done consistently, will contribute to your overall well-being.

**Shoulder Roll Exercise** Relax your arms and gently roll both shoulders in a circular motion. Feel the stretch as you move. Repeat 5-10 times.



# NUTRITION: CNY GOODIES FUN FACTS



KNOW YOUR CHINESE NEW YEAR SNACKS			
<p><b>NIAN GAO FRITTERS</b></p>  <p>1 PIECE = 220 CALORIES</p>	<p><b>LOVE LETTERS</b></p>  <p>4 PIECES = 210 CALORIES</p>	<p><b>PEANUT COOKIES</b></p>  <p>4 PIECES = 200 CALORIES</p>	<p><b>FORTUNE COOKIE</b></p>  <p>2 PIECES = 40 CALORIES</p>
<p><b>TAPIOCA FLOUR COOKIE</b></p>  <p>4 PIECES = 90 CALORIES</p>	<p><b>CRISPY HONEYCOMB</b></p>  <p>3 PIECES = 150 CALORIES</p>	<p><b>PINEAPPLE TARTS</b></p>  <p>4 PIECES = 140 CALORIES</p>	<p><b>BAK KWA (PORK)</b></p>  <p>1 PIECE = 370 CALORIES</p>
<p><b>PEANUT PUFFS</b></p>  <p>4 PIECES = 420 CALORIES</p>	<p><b>PRAWN ROLLS</b></p>  <p>10 PIECES = 228 CALORIES</p>	<p><b>TWISTED COOKIES</b></p>  <p>3 PIECES = 200 CALORIES</p>	<p><b>BAHULU</b></p>  <p>3 PIECES = 100 CALORIES</p>

Know your goodies!  
Feast in moderation!

Happy CNY! 

## WAYS TO BURN 500 CALORIES FROM CHINESE NEW YEAR

500 CALORIES =  OR 

BURN IT AT HOME	BURN IT AT THE GYM	BURN IT OUTDOORS
<ol style="list-style-type: none"> <li>120 MINS OF CLEANING THE HOUSE</li> <li>90 MINS OF GARDENING</li> <li>130 MINS OF GUITAR PLAYING</li> <li>90 MINS OF PLAYING WITH KIDS</li> <li>75 MINS OF WII ZUMBA</li> <li>45 MINS OF RUNNING STAIRS</li> <li>50 MINS OF HULA HOOPING</li> <li>80 MINS WORK ON YOUR CAR</li> <li>90 MINS OF MOWING THE LAWN</li> <li>51 MINS JUMP ROPE</li> </ol>	<ol style="list-style-type: none"> <li>55 MINS OF ROWING</li> <li>65 MINS OF HIGH IMPACT AEROBICS</li> <li>40 MINS OF BOXING</li> <li>40 MINS OF ELLIPTICAL TRAINER</li> <li>45 MINS OF BACK TO BACK BODYWEIGHT EXERCISES</li> <li>40 MINS OF MARTIAL ARTS</li> <li>120 MINS OF PILATES AND YOGA</li> <li>50 MINS OF CIRCUIT TRAINING WITH LITTLE OR NO RESTING TIME</li> <li>52 MINS OF CAPOEIRA</li> <li>52 MINS OF STARJUMPS</li> <li>48 MINS OF PULL UPS</li> <li>34 MINS OF SQUASH</li> </ol>	<ol style="list-style-type: none"> <li>64 MINS ROCK CLIMBING</li> <li>127 MINS OF WALKING</li> <li>60 MINS MOUNTAIN BIKING</li> <li>60 MINS OF SWIMMING</li> <li>51 MINS RUNNING AT 10KM/H</li> <li>110 MINS OF SURFBOARDING</li> <li>64 MINS OF A MODERATE BIKE RIDE</li> <li>73 MINUTES OF TENNIS</li> <li>90 MINS OF GOLF</li> <li>73 MINS OF ZUMBA DANCE</li> <li>48 MINS OF BEACH FOOTBALL</li> <li>92 MINS OF BASKETBALL</li> <li>52 MINS OF ABSEILING</li> </ol>
 1 CUP WHITE RICE, MEDIUM GRAIN = 242 CALORIES		 1 WHITE BREAD = 67 CALORIES



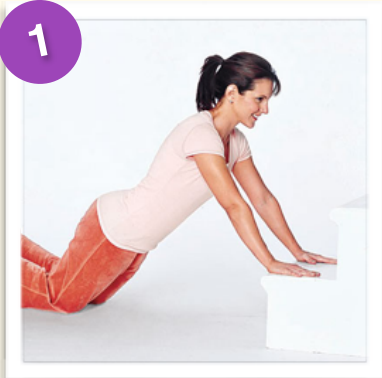
# POWER MOVES

By Zakie Aiksan



Strength training doesn't have to mean hefting weights. Doing two sets of these four exercises will work all your major muscle groups in just over 20 minutes.

1



## INCLINE PLANK

Kneel on the floor facing a set of stairs. Place your hands on the edge of the bottom step. Lean forward to balance your body between your hands and knees. (Don't lock your elbows.) Hold for 2 minutes, breathing deeply. If you need a break, sit back on your heels. Then resume until the time is up. Repeat twice.

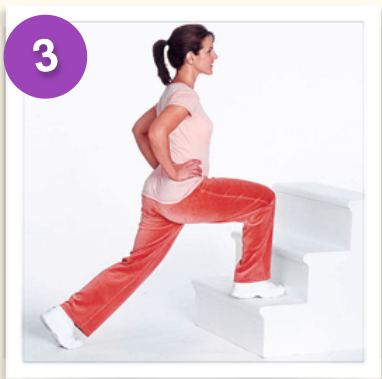
2



## TRICEPS HOLD

Sit on a step with your feet and knees together. Place your hands on the step behind you, fingers facing forward. Straighten your arms to lift your hips off the step. (Don't lock elbows.) Hold this position for 1 minute. If you need to rest, do so, then resume the up position for the remaining part of the minute once you've recovered.

3



## ALTERNATING STAIR LUNGES

Standing in front of the stairs, place your right foot completely on the first step. Bend both legs into a lunge. When your right thigh is parallel to the floor, push off your right foot, then step up with your left, and continue alternating feet for 1 minute.

4



## HAMSTRING CURL

Stand in front of the stairs with your left hand on a railing for balance. Extend your right leg behind you, toes a few inches off the ground. Bend your right knee slowly, bringing the heel toward your rear, keeping your hips level. Return to the starting position. Do 10 repetitions on each leg, repeating the sequence for 1 minute.

# Kinetic Workout

Date: 4th March 2015

Time: 3.00pm - 4.30pm

#1

**Mini Tennis @ Hildan Ark**  
**Facilitator: Vai, Isaac & Aloysius**

#2

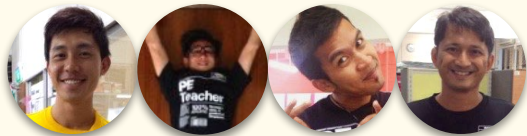
**Badminton @ Hildan Ark**  
**Facilitator: Zanizam, Zakie & Noh**

#3

**Aerobics @ PAL Room 1 & 2**  
**Facilitator: Jasmine & Diana**

Please bring along your water bottle to stay hydrated while working out. More details will be sent via email to the whole staff. Stay tuned!

See you soon and meanwhile, stay kinetic!



## Kinetic Herald Editorial Board

Information adapted from the following:

- National Kidney Foundation Website
- "What you need to know about Neck Pain. A Physical Therapist's Perspective" (American Physical Therapy Association, 1996)
- <http://www.allyou.com/diet-fitness/at-home-workouts/power-moves>