

A Kinesiology Majors Club Publication

## Special Interest Articles:

- ¥ Adolescent Health.
- ¥ Changes in KINE track
- ¥ Calculating your Exchange System

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## Yoga: Living in Harmony

The word "yoga" conjures up different ideas to different people. Yoga is popularly associated with body flexibility, stress reduction, and physical fitness. As a form of exercise, yoga is gaining enormous popularity, especially in America. The number of people in USA who practice yoga is nearly 18 million. This number has been doubling every four years (source: yoga journal magazine). Behind the popular notion that yoga is a form of physical fitness,

is a science of well-being that caters to all levels of our existence.

"Yoga" is a Sanskrit word which means to harmonize, to achieve unison. In essence, yoga is the art of leading a harmonious life. One component of a harmonious life is good physical health. Physical health is the harmonious orchestra of different organs and body parts working together. All forms of exercise seek to promote physical health- the harmony at the level of the physical body.

The uniqueness of yoga is that it seeks to promote harmony across all layers of our existence. Yoga broadly identifies 7 layers to our existence: physical body, breath, mind, memory, intellect, ego and the consciousness. In the subsequent sections, we will examine how yoga caters to the body, breath and the inner layers.

The aspect of yoga that caters to the physical body is perhaps most well-known aspect.

*Continued on page 4*

## Overweight American Teens: Maintaining a Healthy Weight

The prevalence of overweight and obesity in American adolescents (ages 12 to 19) is increasing at an alarming rate. Over the past two decades the frequency of overweight among this age group has nearly tripled and obesity more than doubled. Nationally, 13.6% of adolescents are overweight and an additional 10.5% are obese. Type II diabetes, a disease closely associated with overweight/obesity and previously found primarily in adults, has increased dramatically in adolescents. Generally, overweight and

obesity is caused by a lack of physical activity, unhealthy eating patterns, or a combination of the two. Although genetics is also an influence, our current sedentary lifestyle is largely to blame. Computers, TV, and video games contribute significantly to our inactivity. And how many times have you taken the elevator to the second floor instead of a single flight of stairs?

We are all aware of America's bulging waistline, and the problem will be around for at least another generation. Overweight adolescents have a 70% chance of becoming

overweight or obese adults. This increases to 80% if one or more parent is overweight or obese. Overweight adults have an increased risk for developing a number of health problems, including heart disease, high blood pressure, depression, and some forms of cancer. Cardiovascular and musculoskeletal problems are common among the obese. An overweight person is 10 times more likely to develop Type II diabetes, and severely obese adults are approximately six times more likely to develop heart disease.

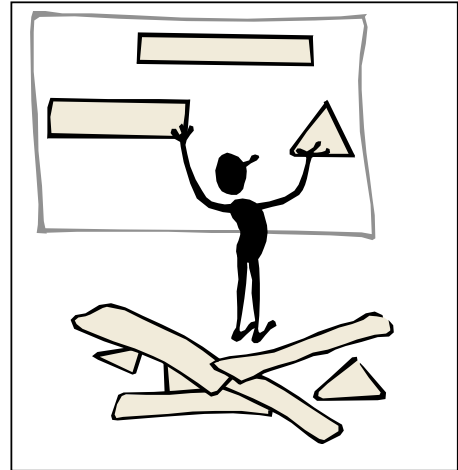
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## Health Sciences Track Change is Good

The Health Sciences Track has changed over the course of my four years here, and has allowed for a greater emphasis on an important aspect of medicine and health that may be overlooked by traditional health-science related programs at other universities. Dr. Iammarino has established a program such that the students will have the opportunity to understand the public health dimension of medicine. Although the track is not limited to this idea, the courses that have piqued my interest over the years has allowed for an

incredible opportunity for understanding other factors and influences that are affecting the health of our society. From the basic foundation courses like HEAL 222 and HEAL 407, students can gain a foundation for the more in depth and possibly more focused discussions in many of the upper level electives within and outside the health sciences course offerings. What I suggest for any upcoming health science majors, as well as other medically inclined students, is to take a certain

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### Nutrient Upper Level of intake for vitamins & minerals

Vitamin A	.3,000 micrograms
Vitamin C	.2,000 mg
Vitamin D	...50 micrograms
Vitamin E	...1,000 mg
Niacin	3.5 mg
Vitamin B-6	.100 mg
Folic Acid	.1,000 micrograms
Choline	...3,500 mg
Calcium	...2,500 mg
Iron	..45 mg
Phosphorus..	..4,000 mg
Iodine	..1,100 mg
Magnesium	..350 mg
Zinc	...40 mg
Selenium	.. 400 micrograms
Copper	..10 mg
Manganese	..11 mg
Molybdenum	2,000 micrograms

\* Upper limits for Vitamins K, Thiamin, Riboflavin, Vitamin B-12, Biotin, Pantothenic acid, and Chromium have not been established due to the need for more research.  
 \* Determined by Food and Nutrition Board of the Institute of Medicine

## How much is too much?

Everyone is well aware that vitamins and minerals are needed. A Centrum will usually do. But what if you are working out? Do more vitamins/minerals help you out? According to the American Dietetic Association, vitamin supplements do not enhance performance of well-nourished people. However, it does impede performance, if there is a deficiency. In general, majority of individuals who are physically active do eat more food. So if the right food choices are made, then extra vitamins are not needed. Some athletes believe and mistakenly take supplements before a competition. This has not been supported by scientific research. Vitamins are smaller parts of larger functions. As result, after entering the blood, they must wait until

the cells do their part of the job. This takes time (hours or even days)! So, vitamins/minerals taken before a competition may do not enhance performance, not even if there is a deficiency present! Besides, if excessive vitamins and minerals are ingested, they have two destinations: straight to the toilet or straight to your thighs and stomach. So be careful!

In general, active individuals who eat well-balanced meals do not need any vitamin or mineral supplements.

- Graciela Barajas (04)

## Teens: Maintaining a Healthy Weight

The best way to determine whether or not your weight is healthy is to consult a physician. He or she will often use a Body Mass Index (BMI) calculator, a common first assessment tool that measures weight for height. Although it *correlates* with body fat, BMI is not a direct indication of body fat. For example, a body builder with large muscle mass may have the same BMI as an obese person with more body fat if they both have the same height and weight. For this reason your doctor will consider other measures and risk factors in your personal health profile (such as smoking, waist circumference, physical activity level, and diet).

If you are overweight or obese, you are at an increased risk for disease. Even a small

weight loss (just 10% of your current weight) may help to lower that risk. To begin losing weight, or even to maintain a healthy weight, try to increase your levels of physical activity. It is recommended that Americans accumulate at least 30 minutes of moderate physical activity most days of the week. You don't have to visit the gym every day to meet that requirement. Walk to class instead of taking the shuttle. Play an IM sport. Take the stairs. Limit time spent watching TV or playing video games.

Eating breakfast is a good way to start the day and may be important in maintaining a healthy weight. Try to eat at least 5 servings of fruits and

vegetables a day. Follow the Dietary Guidelines for healthy eating ([www.health.gov/dietaryguidelines](http://www.health.gov/dietaryguidelines)). It is becoming increasingly apparent that sugary soft drinks are a significant cause of overweight and obesity in adolescents and adults. Drink water and limit intake of sugary soda, fruit juice drinks, and sports drinks. Something as simple as switching from regular Coke to diet, or regular to Baked Lays can be a foundation for weight loss. Above all, it is important to remember that your excess weight did not appear overnight, and it should not disappear that way. Healthy weight loss and weight control is a lifelong process.

Online BMI calculator:

<http://www.cdc.gov/nccdphp/dnpa/bmi/calc-bmi.htm>

Source: Overweight in Children and Adolescents. *The Surgeon General's Call To Action To Prevent and Decrease Overweight and Obesity.*

Online.

[http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact\\_adolescents.htm](http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_adolescents.htm)

- **Stephanie Savory**



## Article Summary: Adolescent Sexuality in Urban and Rural Mexico: Knowledge, Behavior and Access to Information

**Objective:** To assess sociodemographic characteristics and self-reported sexual knowledge, behavior, and access to information among Mexican adolescents.

**Methods:** A sample 12,764 adolescents, 11-19 years old, attending 352 public junior and high schools in Morelos, Mexico, completed a self-administered questionnaire on sexual knowledge and behavior from September 1998 through June 1999.

**Results:** The sample was composed of 44% male and 56% female students with a median age of 14.1 years. More students lived in urban and semi-urban areas (60%)

than in rural areas (40%). Students had a greater understanding of male reproductive biology than female with older students and those from urban schools more knowledgeable. Females were more aware of contraception methods than males, reporting greater familiarity with cervical mucus methods (94%) than with condoms (13%). Rural and younger adolescents had greater knowledge of contraception than did urban and older students. Less than 20% of students could accurately distinguish STDs from a general list of diseases and very few could

identify risky behaviors for HIV/AIDS. Overall, 14% reported being sexually active. Mean reported age at first intercourse was 13.6 years for males and 14.4 years for females. When asked if they felt they were at risk of contracting an STD, 86% reported either no or little possibility. Students overwhelmingly trusted school materials most for obtaining information on sexual matters (82%) over television, movies or magazines.

**Discussion:** School based intervention programs are needed to increase sexual knowledge and reduce the risk of STDs and HIV in adolescents in Mexico.

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- **G. Barajas, A. Cruz-Valdez, A. Fitzpatrick**

*Instituto Nacional de Salud Publica, Cuernavaca, Morelos, MX*

*University of Washington, Seattle, WA, USA*

*National Institute of Health, Minority International Research Training Program*

**Article Summary: 'OVERWEIGHT AND OBESITY IN ADOLESCENTS AT A UNIVERSITY PEDIATRIC CLINIC**

**Background:** Overweight and obesity in adolescence are increasing at an alarming rate. Nationally, 11% of adolescents are obese. The Guidelines for Adolescent Preventive Services (GAPS) recommends that adolescents receive annual guidance concerning exercise and safe weight management.

**Purpose:** The purpose of this study was to determine the prevalence of overweight and obesity in adolescents as well as the rate of documented guidance in a university pediatric clinic.

**Methods:** A random sample of 785 medical charts of patients 12-17 years old, stratified by race and sex,

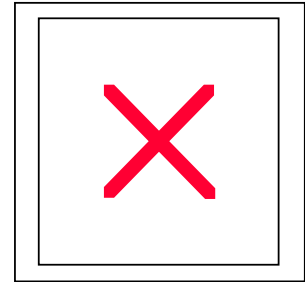
from the LSUHSC pediatric clinic was reviewed. Patient age, race, sex, weight, and height at date of last visit were recorded. Clinical visits within the last 12 months were assessed for documented guidance regarding exercise, weight and/or dietician referral.

**Results:** Sixty percent of study patients were female, 69% were African-American, and 21% white. The mean age was 14.9 (S.D. 1.7). The median number of visits was three. 26% of patients were obese (BMI-for-age >95th percentile) and an additional 19% were overweight (BMI-for-age > 85th percentile). There was

no significant difference in overweight and obesity by race and sex (48% WF, 47% BF, 46% WM, and 37% BM. Most (79%; 95% CI = 74%-83%) of overweight or obese adolescent patients had multiple clinic visits.

Weight concerns were charted significantly more often for obese patients (38%) than for overweight patients (2%)(p<0.001). Ten percent of obese patients received dietician referrals, compared to 2% of overweight patients (p<0.01). However, there was no difference in charted recommendations for increased physical activity (5.5% vs. 5.0%).

*Nationally, 11% of adolescents are obese.*



*Continued on page 7*

**Yoga...**

The yoga exercises include static body postures and dynamic flow of postures. A static posture is one that is held steadily and comfortably for a certain amount of time, with awareness. The postures range from stretching to orientation (like inversions), those that impart physical strength, to those that induce relaxation. The dynamic flow of postures in yoga, induce aerobic effect on the body.

The benefits of yoga postures on the body have been well studied in the last several years. The benefits include relaxation, revitalization of internal organs, nourishing them with proper circulation of blood, correcting improper posture, relieving stress

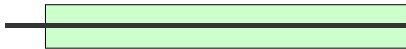
accumulated in the nerves and muscles, and so on. The most important aspects of the postures are the integration of the breath and the impact on the central nervous system. Every posture has a prescribed breathing pattern associated with it. Further, yoga postures give special focus to the spine, which houses the central nervous system. The use of breath and the impact on the nervous system prepares our body to harmonize the deeper layers of our existence- the breath and mind.

Yoga gives special importance to the breath. Breath is a bridge between the tangible body and the subtle mind. Disharmony in breath is very common, and manifests as

shallow breathing and improper rhythms of breath. Not only does the disharmony lead to respiratory disorders, but also to emotional imbalances. Yogic breathing teaches how to maximize the oxygen drawn from the breath, how to channelize and store the energy, and most importantly, how to harmonize the rhythms of breath. The rhythms of breath, to which we seldom pay attention, is indicative of the state of mind. Breath and emotions are linked- one impacting the other. Emotions like anger, fear, happiness, etc have specific patterns of breath associated with them. Conversely, the rhythm of breath can be used to affect the

state of mind. Yogic breathing, therefore, promotes harmony of the mind and other subtle layers of our existence. Yoga attends to the subtle layers of our existence- mind, memory, intellect, ego and the consciousness - using relaxation and meditation techniques. In yoga, meditation is said to happen when the mind is

*Continued on page 7*



## Calculating Your Diet using the Exchange System

With all the hype about watching your caloric intake in order to keep off the pounds and prevent heart disease, diabetes and obesity, it's easy to get lost in the various calculations some diets may require. The exchange list is a beneficial way to keep your meals nutritious and healthy, at the same time allowing you to have a better grasp on serving sizes and number of calories coming from carbohydrates, protein and fat. Although it may seem ridiculous to count calories, having a rough idea of how many calories you are eating is a great way to get started on the road towards losing weight. It remains a simple fact that if you eat fewer calories than your body uses, you will lose weight. Another good thing about the exchange list is that you can categorize what you are eating so that you can maintain a balanced diet as you lower the number of calories you intake.

To calculate a weight reduction diet:

**1)** Take your ideal body weight (for women at 5 it's 100lbs + 5lbs for every inch after, and for men it's 106 lbs at 5 and then 6lbs for every inch after) and multiply that number by 10.

Therefore if you are a 5'4" woman, your ideal body weight x 10 would give you 120lbs x 10 = 1200 kcals/day if you were looking to lose weight.

(Note: the ideal body weight measurement is not a good way to find out what you should actually weigh, but it does give accurate calorie values for weight loss.)

If you feel that your Ideal Body Weight is way below what you weigh now,

you can also use what is called your reference body weight.

This number is equal to the lowest weight you've been in your adult life. You can then multiply this weight by 10 and use this as your target calorie value.

**2)** Divide up total calories into Carbohydrate, Protein, and Fat based on recommended amounts.

The normal breakdown is having about 50% of calories come from CHO, 20% from PRO, and 30% from fat. Sticking with the above example, in a 1200 kcal diet 600 kcals would come from CHO, 240 kcals would come from PRO and 360 kcals would come from Fat.

**3)** Convert calories into grams: (CHO has 4 kcal/g, PRO has 4 kcal/g, & Fat has 9 kcal/g)  
 CHO- 600 kcals = 150g  
 PRO- 240 kcals = 60g  
 Fat- 360 kcals = 40g

**4)** Spend the grams: 1<sup>st</sup> on CHO, then on Pro, and then on Fat (see exchanges chart)

If you are looking to maintain your weight, you can add an activity factor to the calorie value you calculated using your IBW or reference body weight times 10 (this is called your BMR- basal metabolic rate). The way the activity factor works is as follows:

If you are sedentary (your job doesn't make you sweat and you go home after work and watch TV or grade papers, etc.), then you take your BMR x 1.3

So for a female that is 5'4" this would be 120 x 10 (BMR) times 1.3 = 1560 kcals

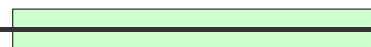
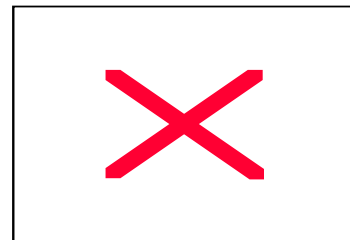
If you are moderately active (you go home and exercise 3-5 days a week after work),

then you multiply your BMR by 1.5----- 1800 kcals

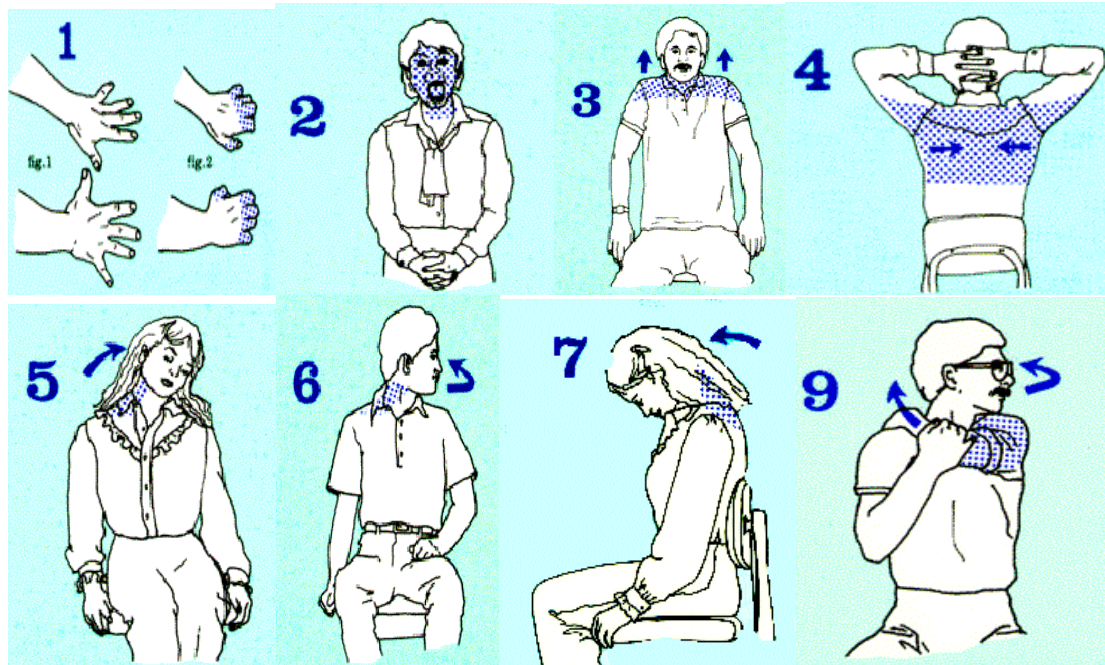
If you are active (your job is active and then you go home and get some exercise) then multiply your BMR times 2 to get an accurate daily calorie value---- 2400 kcals

-**Jessica Schumer**

	Serving Size	CHO	PRO	FAT
<b>Milk</b>	8 oz	12g	8g	0g-skim 5g- 2% 8g(whole)
<i>Includes: plain yogurt</i>				
<b>Fruit</b>	1 piece 4 oz juice	15g	0g	0g
<b>Vegetable</b>	1/2 cup cooked 1 cup raw	5g	2g	0g
<b>Bread</b>	1/2 cup (palm of hand)	15g	3g	varies
<i>Includes: potatoes, corn, lentils, red beans, and starchy vegetables</i>				
<b>Meat</b>	1 oz (one single of cheese)	0g	7g	0-8g
<i>Includes: eggs, cheese, one slice of deli meat</i>				
<b>Fat</b>	1 tsp. - 1 tbs.	0g	0g	5g
<i>Includes: oil, butter, salad dressing, mayo, bacon, nuts, margarine</i>				



## Need to stretch at your desk?



<http://www.lib.msu.edu/ergomsu/stretch.htm>

## Change is Good.....

group of classes that would allow for a different look at establishing and managing good health within this nation. Currently, some SOCI and ANTH classes that are offered as electives provide for a topical yet broad overview of the rising theme that health inequities in this country should not be dictated by traditional demographic boundaries. Particularly, the social factors (race, gender, socioeconomic status) that are working to establish the inequities in major parts of peoples lives are equally as important when considering intervention as the immediate threats (smoking, drinking, lack of exercise, etc.)

Medicine today is highly involved with interventions *after* disease establishment. For our generation, the onus should be on prevention of the disease before it arises, primarily for humanitarian reasons but also economic. Classes like Disparities in Health Care (HEAL 498) provide lectures from the nation s most prominent and involved experts so that the opportunity to assess where medicine might be going in the future is tremendous. Additionally, WIES 398 (Society and Health) although not a part of the track, is an excellent complement to Disparities. We know how to

repair blocked coronary arteries and treat certain types of cancer, but how we will (as future professionals involved in the healthcare interventionist process) address the growing inequities in health and healthcare is equally important. These classes, as well as other offered by the track, will allow students to grasp the concepts and processes at work today in order to help make the change in the future.

- Sanjeet Patel ( 04)

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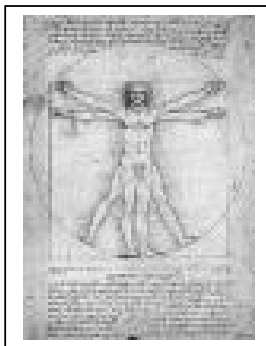
*For our generation, the onus should be on prevention of the disease before it arises, primarily for humanitarian reasons but also economic.*

## Kinesiology Majors Club

Officers:

Michelle Bost  
and  
Jessica Schumer  
(Co-Presidents)

Graciela Barajas  
(Interim Secretary  
and Treasurer)



## OVERWEIGHT AND OBESITY IN ADOLESCENTS AT A UNIVERSITY PEDIATRIC CLINIC

Charted counseling rates among overweight and obese patients did not differ significantly by race, sex, or age. **Conclusion:** Almost half (45%) of adolescent patients in our study were overweight or obese. Weight was charted as a problem in less than one fourth of these patients, and fewer than 1 in 15 received a recommendation to see the

dietician. Charted counseling rates were particularly low among overweight adolescents, the majority of whom had multiple clinic visits and thus multiple counseling opportunities. This study indicates the need for increased physician guidance concerning weight management with children and adolescents.

- **Stephanie Savory**<sup>1</sup>, Estela Marin<sup>2</sup>, Paul Cooper<sup>2</sup>, Terry Davis<sup>2</sup>, Joseph Bocchini<sup>2</sup>

<sup>1</sup>Rice University, Houston, TX

<sup>2</sup>Department of Pediatrics,  
LSU Health Science Center,  
Shreveport, LA

## Yoga

in the present moment, completely with the task at hand. There is no unwanted expenditure of mental energy (ie., disharmony) such as worry, anxiety, fear, stress, etc. Yoga provides several techniques to gently lead the mind into meditation. The techniques range from attention on breath, body parts, sensations, the use of sound, visualization, and so on.

Thus yoga is a self-discipline that brings harmony across all levels of

our being. In a nutshell, yoga gives us a better quality of life.

The yoga club at Rice organizes weekly yoga sessions and special workshops. Those interested to learn more about the club activities can visit the club web page at <http://www.rice.edu/yoga>

- **Shriram Sarvotham**

## About Our Organization...

KINESIOLOGY MAJORS CLUB was founded in September 2001 to promote educational awareness and career opportunities for Kinesiology majors at Rice University.

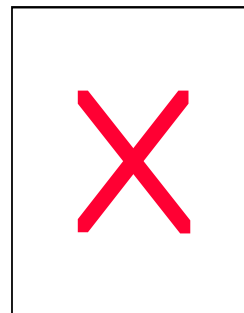
The purpose of this organization shall be as follows: Provide a support

Visit us on the web at:

<http://www.ruf.rice.edu/~kmc/>

network Kinesiology majors at Rice. Provide awareness of the Kinesiology major at Rice University. Provide information about occupational pursuits in the field of Kinesiology. Establish a link between professionals and current Kinesiology students at Rice.

Want a specific topic to be written about in the next newsletter? Let us know!



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