Dr G's MediSense

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TEACHING MEDICINE AS A HEALTH VOLUNTEER PERU

by Ann Gerhardt, MD

I taught medicine for two weeks in Lima, Peru, one week at Hospital Rebaglioti and one at Hospital Almenara. I went alone, under the auspices of Health Volunteers Overseas and was hosted in Peru by EsSalud, the social security/health insurance administration. I presented formal lectures to physicians, residents and students about metabolic syndrome, nutrition support, diabetes, heart failure and transplant medicine, including cutting-edge concepts and late-breaking results. It was a pleasure to work with intelligent, diligent and caring physicians, who expected me to impart an advanced level of medical information.

The doctors recognize that they need more information about these topics because, with Peru's rising prevalence of obesity, they will be seeing more metabolic and circulatory disease. Their medical education is comprehensive (seven years of medical school, rather than our system of four years of under-graduate and four years for medical school) and they have the same access to information that any practicing doctor has in the U.S. With limited resources and immediate concerns of infection, cancer and organ failure, they haven't focused much on metabolic disorders.

They do know infectious disease – U.S. infectious disease specialists have gone to Peru to further their training. I saw patients with very unusual presentations of tuberculosis that I had never seen before. **I haven't seen so many very sick people on a non-intensive care ward since my Internship training in a VA hospital in 1979.** Various agencies expend a huge effort to document and prevent infectious diseases, including tuberculosis, measles, tetanus, malaria, leprosy, rabies, plague, HIV, leishmaniasis, dengue fever and syphilis, but they still show up, particularly in the tropics.

Rebaglioti and Almenara are the top two hospitals of the Social Security system, called EsSalud, which organizes services by level of complexity. Other EsSalud hospitals specialize (as in geriatrics or obstetrics) or provide general medical care for minimally complex disease. Patients who need a high level of care are transferred to Rebaglioti or Almenara. At 1000 and 850 beds, respectively, they are huge but full to overflowing and unable to admit all the patients who need high-level service.

With all the publicly insured sick Peruvians funneled to these two hospitals, the ER's are packed and the severity of illness of those who actually get admitted **to beds is** extreme. **Most simple pneumonia, chest pain, cellulitis, and other one-system-disease patients are treated in the ER for days, if necessary, and discharged from there.** Rebaglioti has a 100-bed ER, unless more beds are added along the walls and down the middle of the halls. It seems like a triage area after a mega-natural disaster ... every day.

Each day I was picked up from the hotel at 7:30 AM. A great deal of faith went into this process, since the entire first week I wasn't told how I would get to the hospital or when or how I would return to the hotel. I gave at least one talk a day, always starting on Peruvian time (20 minutes late), and participated in case discussions on

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rounds. These were not their working rounds, so they took extra time to show me patients. At times I had nothing to offer – the only option was to wait for a pending test result, while other times I think I provided diagnostic and therapeutic options that helped. Once I was shown a man who was clearly in the throws of dying – he needed an intensive care unit quickly, but I couldn't go nuts with urgency, because I knew a rapid transfer and immediate dialysis were not options.

At both hospitals the patient-oriented discussions increased as the week passed, probably as the doctors figured out how best to use me. We often found our approaches to be very different, and learned from each other. Rebaglioti and Almenara doctors deal with complex medical problems with limited access to diagnostic tests. Almost all types of tests are available, they just take more time. The patients patiently wait and the doctors try to keep them stable until results arrive. An MRI or CT takes 5-7 days to complete from the time of the order. A private company that operates a mobile MRI and does the scheduling.

Change and new technology come slowly, having to surmount layers of bureaucrats, few of whom are trained hospital administrators. Almenara's top administrator is a neurosurgeon, so now Almenara has its own MRI. Without his push for the machine, the hospital would still be contracting out for MRI services.

EsSalud doctors treat very sick patients, work hard and are paid for 6 hours work per day (150 hours a month). There are only two nurses per ward. The doctors take vital signs and do wound cleaning and dressing changes. With no computerized order entry, they have to re-write all medication orders every day.

The doctors leave at 2PM, often for second jobs. I got rather hungry each day because they don't seem to eat lunch until the end of their shift, so I learned to eat a huge breakfast to carry me through. Dr Cassinelli would take me to get some food if I complained of hunger, but she was clearly being nice and accommodating my 'special' needs. Dr Illescas fed me enough food on my last day at Almenara to make up for the previous week.

I sat a fair amount of time, waiting – for them to decide what to do with me next, for a computer and projector to give a talk, for someone to find me toilet paper so I could go to the bathroom or for people to arrive for a talk. I used the time to listen to the medical students' lessons or work on my Spanish. I spent my evenings revising my presentations to suit the types of patients they see and the drugs they have available, and to make the slides easier for a non-English speaking audience to understand.

Theft is a major problem. Using the rest room necessitates locating the door key, toilet paper and soap, all of which are returned to their hiding place when finished. It has to be this way – otherwise the hospital would go broke, replacing stolen soap and toilet paper. Almenara hospital, situated in a very poor area of town, has an exceptional problem with theft. Visitors and people posing as relatives steal not only soap, but also bedding, hospital gowns and even the sink drain pipes. Family must obtain written permission from doctors to visit their ill relative, and guards at each ward entrance check to make sure that only authorized individuals enter. I left the hospital one day, alone, not wearing my white coat and carrying a backpack: The gate guard searched the pack for stolen goods.

It seems insane that facilities proficient in treating infectious disease would not have soap or alcohol readily available for hand washing to prevent infection spread. They don't, though - To leave soap unattended is to offer it to someone to steal. In spite of hidden soap supplies, the hospitals are very clean. Legions of diminutive janitors, covered from head to toe in protective clothing, keep the facilities spotless. They have soap.

Built over 40 years ago, both hospitals have the spartan look of our state institutional hospitals of the 1950's. Though lacking in esthetics, they provide the necessities of competent healthcare. Though amenity updates stagnate, the hospital paint scheme changes when the Peruvian government does. The last administration wanted the hospitals painted with orange trim. Now everything is blue. An outlying "new" hospital that serves mostly geriatric and obstetric patients, looks like a large swatch of swimming pool-blue on a brown desert canvas.

GAME OF CHICKEN ANYONE?

by Ann Gerhardt, MD (subscribe to DrG'sMediSense at www.drgsmedisense.com)

Maria nearly slapped my hand when I rested it on the open car window, as our taxi sat in a busy intersection. A few more inches outside the car and a passing car could make me an amputee.

I thought I must have found the one safe and polite taxi driver in all Lima: He was leaving a few feet between him and all other cars, giving other cars right-of-way and not blasting through intersections. THEN he pulled out his glasses and put them on. The car jolted forward and we were cutting off cars right and left, just like usual.

A physician colleague told me that traffic rules exist in Peru, but no one follows them. Instead they follow the rules of "Chicken" with the gutsiest drivers advancing and the chickens interminably late. Drivers keep moving into whatever tiny space they want to create, until the opposing driver backs off. One 'wins' and drives ahead a few inches and the other 'loses' and sits, waiting for another break. To picture an intersection of two 4-lane streets, imagine ants converging on a crumb.

Cars in moving traffic look more like balls from sling shots. At least they move, but there is a lot of swerving. Very few roads have lane markings. When present, they are ignored. More than one tiny car fits in a lane, so why waste space? Swerving between lines of cars and inching out whoever may already be in line, is the norm. Small city streets, with only one lane each direction, are fair game for using the oncoming lane as an extended passing lane.

An unwritten set of rules prevails. Instead of stop signs, drivers honk as they approach a blind intersection, to tell others of their impending crash. Somehow a rule-less negotiation occurs, which may be related to which car is moving with the most velocity, and allows one car to go through first. (In the U.S. we have an also-bad custom of naive people expecting an oncoming car to stop at a stop sign and being squashed when the car doesn't).

After one day I was sure that motor vehicle accidents kill most residents of Lima, Peru. I was wrong. If not direct trauma, I reasoned, it should be heart attacks from fear. Wrong again. The leading cause of death in Peru is communicable disease, though that statement must be qualified by the fact that in 1990 nearly 50% of the deaths were unregistered. Many people don't go to the hospital to die or be counted. But there are a lot of amputees.

"External causes" (aha!! – motor vehicle accidents perhaps?) kill most 20-59 year old males. In 1999 a whopping 79,695 people died in motor vehicle transport accidents in Peru. By way of comparison, there were 'only' ~ 45,000 motor vehicle accident deaths per year in the U.S., though the population is 10 times that of Peru and more people own and drive cars in the States.

Drivers play the game of chicken with pedestrians also. Cars don't give right of way or even slow down for pedestrians. On the other hand, pedestrians don't run across streets to avoid cars. Young, healthy pedestrians pick the time to cross, take long strides and DO NOT LOOK at the oncoming traffic. (Perhaps I saw very few old pedestrians because of this behavior). After two weeks, I began to mimic the technique. Once a car that had pulled out of a parking place actually slowed down to let me cross. Final score: Cars: 524, Me: 1.

Signaling a swerve or trying to prevent someone else's swerve requires honking. There is a lot of honking in Peru – and the nice part is that it occurs without the appearance of anger. Honking just takes the place of a turn signal and gives the thumb something to do.

Which brings me to the good part of Peruvian driving: I saw very few drivers talking on cell phones while they were driving. They need both hands on the wheel, obviously needed to swerve better and to keep the honking thumb ready to serve.

After all, you only live one life, and if you miss the bus, you are just left on the pavement, along with the rest of the failures.

D.H.Lawrence. ***Lady Chatterley's Lover***

I strongly recommend the movie **AN INCONVENIENT TRUTH** for anyone who cares about our future. Then drive less, commute by bike or public transit and promote intelligent community planning that makes consuming less carbon-based fuel easy to do. You'll breathe easier and another Alaskan town might not sink through the perma-frost.

AND YOU THOUGHT YOU HAD IT BAD

... by Ann Gerhardt, MD (subscribe to DrG'sMediSense at www.drgsmedisense.com)

Ancient-appearing women, probably no older than 50, sell dolls, fruit or trinkets. Children sell finger puppets in the street. "Lady, Lady, buy from me!" When I bought from one child, two other hopefuls clamored for sales.

At major intersections, as soon as the light turns red, young men and boys stream between lines of cars, trying to sell knock-off CD's, toys, wallets and kitchen utensils. Others perform gymnastics in the cross-walk and solicit tips from each car before the light changes.

If they didn't sell, they would have no income. The income they glean as street vendors garners them no social security or health insurance. There is no safety net for the frail, old or disabled who never worked for an employer which would have entered them into the social security system. In the menacing words of one doctor, spoken with finality, **"If you have no money, you die."**

Whether poverty is measured in terms of family income or in terms of social indicators such as child mortality, it is worse in Peru than would be expected on the basis of the country's average per capita income. This situation results from an exceptionally high degree of inequality. Clearly, money from the very rich doesn't trickle down to the average Jose.

In the 1980s, poverty in Peru increased more than in other major Latin American countries, chiefly because of the drastic deterioration of the economy's overall performance under President Garcia. Garcia has just become president again, beating a Chavez-type opponent in the May election. Who knows what will happen now?

The Economic Commission for Latin America and the Caribbean draws two lines for measures of poverty - one for destitution, and a second cutoff for run-of-the-mill poverty. Destitution refers to income so low that it could not provide adequate nutrition, even if it were spent entirely on food. Poverty in the less extreme sense implies an income tha, spending on food the percentage of income that normal families spend on food, could not provide adequate nutrition.

Fifty two percent of Peruvian families fall below the poverty line and 25 percent are destitute. The rates are much higher for families in rural than urban areas. Most of the middle class, constituting professionals like doctors, lawyers, accountants and small business people, live in urban areas. One EsSalud doctor I worked with makes about $600 per month. Others make more, by working more than one job.

Business people and drug traffikers constitute the rich class. Even their wealth may be transient – In the past new governments have summarily divested people of their mansions and businesses.

The poor subsist in colored shacks dotting barren foothills on the edge of town, with no water or electricity. I took a taxi to Canto Grande, one of Lima's poor outlying districts, to visit a nutrition clinic. The drive took me from tree-lined city streets to desert landscape, punctuated by increasingly delapidated buildings. Most had no roof – just some rebar, irregular, partly finished brick walls and clotheslines. With no money and no rain, why roof?

Canto Grande's taxis are small, surrey-like affairs, powered by a man on a bicycle. The main road's median strip serves as a left-over concrete dumping ground. Everything is dry and dusty.

The clinic's tiny cubicles house cheerful staff (a pediatrician, nurse and dietitian) and colorful toys to occupy children while they wait for their appointment. Every child who sees the doctor is weighed and measured and given nutrition advice. The dietitian Michelle tells mothers, who look more than adequately nourished, that they should feed their children 'thick' foods with nutritional value, rather than thin broth soups. She encourages them to send junior to school with a snack containing juice, a protein and some starch.

They may be poor, but Peruvians seem to manifest the human capacity for resiliency and accommodation. Literacy has climbed to greater than 92%, the death rate has fallen to 6.5 per 1000 population and they seem to keep on keeping on, trying to make things work, regardless of who runs the country.

PROZAC – NOT A MIRACLE *CURE* *by Ann Gerhardt, MD*

A recent article in the Journal of the American Medical Association "proved" what eating disorder practitioners have known for a long time – that Prozac does not prevent relapses of eating disorders.

Prozac and other SSRI anti-depressants are used to treat people with eating disorders because these patients also have underlying psychiatric disorders. They don't decide to starve or gorge food then vomit because they are normal, well-adjusted people with nothing else to do. They almost always have depression, with varying degrees of bipolar, obsessive-compulsive, psychotic and substance abuse disorders.

Prozac and other anti-depressants help a patient break through the paralysis of denial and addiction to their disordered eating. These drugs often help to prevent suicide, which is the leading cause of death in anorexics.

For some, the anti-depressants induce a 'honeymoon' period, during which they feel fewer urges to binge and purge. After that, problems with food return to a variable degree until therapy succeeds in moving the patient past the need to use food for psychological reasons. Using food, via either starvation or binging, as a coping mechanism can't be prevented by a drug: It only stops when a person can respond to life stress without the need for an external coping mechanism or when they choose a different addiction.

BANANA EQUIVALENTS *by Ann Gerhardt, MD*

My Dad says that reporting potassium content by mg per calorie doesn't help him make decisions about what to eat. He wants to be able to tell the people at the dinner table, who are proud of the fact that they eat a banana a day for the potassium, which food to eat instead.

Here are some foods that have a potassium content equivalent to that of a medium banana:

2/3 cup guava	2 kiwi
2/3 of a medium papaya	1 cup melon pieces
10 halves of dried apricots	1 large tomato
½ cup cooked spinach	4 figs
1 ½ cup pineapple pieces	1 cup elderberries
1 ½ cup blackberries	8 dates

Please remember that not all people should try to maximize their potassium consumption. If you have kidney problems or your potassium seems to run high (above 5.0), you should avoid high potassium foods.

IN SEARCH OF FITNESS IN LIMA *by Ann Gerhardt, MD Subscribe to DrG'sMediSense at www.drgsmedisense.com*

When I asked where I could safely go for a jog, I was told The Golf in San Isidro. No one calls it a golf *course*, just The Golf.

Finding The Golf, a course stuck smack dab in the middle of a residential area of Lima, is not easy, since it is surrounded by a high stone wall and dense vegetation. I doubt that many people use the Golf: Security guards make sure that only club patrons have access. Ubiquitous security guards, with guns and bullet proof vests make sure that few people have access to any official, financial or up-scale place in Lima.

Most people walk as part of their daily life – to the bus, in the street as vendors, to the store, in the farm. Most don't do it for 'aerobic'exercise, and most (especially Cusco at 11,000 feet elevation) don't move very fast.

In upscale Mira Flores, a glitzy section of Lima that out-dazzles Los Angeles, fitness centers enable people who prefer to avoid being hit by cars to stay in shape. Judging from the rising incidence of obesity in Peru, it looks like not too many people can afford to use them.

It seems that purposeful striding, in the ongoing game of street chicken, is the most common way to stay fit. The beach would be nice to stroll (Lima is on the Pacific coast), but is separated from the city by a freeway and much of it is privately owned. Clearly, cycling on the streets is out of the question, unless one has a death wish.

I walked around the Golf a few times, then attempted to explore the neighborhoods of San Isidro. If it weren't for intersections and three close encounters with on-coming cars, I might have achieved aerobic threshold.

HERB OF THE MONTH: RED YEAST RICE & CHOLESTEROL

by Ann Gerhardt, MD (Subscribe to DrG'sMediSense at www.drgsmedisense.com)

Bottom line at the top: Red yeast rice works at least as well as purified statin drugs to improve serum lipid levels. Don't imagine that it accomplishes this by harmless magic: It contains lovastatin (brand name Mevacor) and other chemically active substances that require medical monitoring. Think of it as a drug.

What it is: Rice fermented by the mold Monascus purpureus is known as red yeast rice. The fermentation product contains monacolins, which lower cholesterol.

Monacolin K, one of the active components of red yeast rice, is produced by all Monascus species and some other molds. Other names for the *same chemical structure* are mevinolin and lovastatin (brand name Mevacor), the first FDA-approved statin drug. In the 1990's Merck, Sharp & Dohme researchers identified the chemical structure of monacolin K, calling it lovastatin, and revolutionized pharmacologic cholesterol control.

Compactin, a similar compound isolated from Penicillium molds, induces excessive toxicity in humans, but its chemically modified forms (Zocor and Pravachol) have been safe, effective and lucrative products for the pharmaceutical industry. The biggest money-maker of all, Lipitor, has an entirely synthetic structure based on the monocolins.

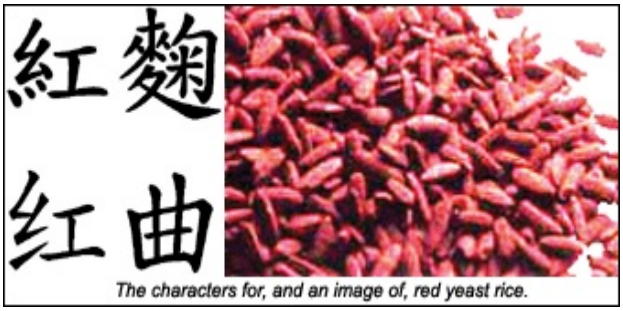
The Chinese have used red yeast rice since the Tang dynasty as an ingredient in rice wine, as a coloring (the red color of Peking duck) and flavoring agent and as an herb to treat indigestion, diarrhea and circulatory disorders.

Why it works: After conversion in the liver to the active form, all of the various monocolins and statin drugs inhibit the enzyme HMG CoA reductase, the first step of cholesterol synthesis in the human liver. Blocking this enzyme turns off the body's cholesterol production and induces the liver to pull more cholesterol out of the blood stream, thus lowering cholesterol levels in two ways.

More potent than Mevacor: Red yeast rice lowers LDL-cholesterol (the bad one) more than an equivalent dose of lovastatin. In studies of patients taking standard doses of red yeast rice, **LDL-cholesterol dropped by 20-30% in 8-12 weeks**. These results are similar to those seen with higher doses of prescription lovastatin (The typical dose of lovastatin (monacolin) delivered by red yeast rice is 7.2 mg and the usual prescription doses of lovastatin are 10 – 40 mg).

In addition, the red yeast rice product **lowers triglycerides** (the circulating fats in blood) by 24-34% and **raises HDL-cholesterol** (the good cholesterol) by 14-20%. Pfizer claims that Lipitor lowers triglycerides and raises HDL, but the effect of it and all other statins is often minimal.

Composition: Red yeast rice products are mostly rice starch, with some protein, fatty acids, monacolins, ash, β-sitosterol, iron, magnesium and copper. The cholesterol-lowering components include eight different monacolins. Traditional red yeast rice contains smaller amounts of these substances than do proprietary forms. Some Chinese traditional preparations contain potentially toxic citrinic acid. The yeast is red yeast rice is inactive.



The characters for, and an image of, red yeast rice.

Because red yeast rice contains an approved pharmaceutical agent, its producers have been battling the Food and Drug Administration in court as to its status as drug vs. dietary supplement. So far it remains an unregulated dietary supplement.

Caution: Monocolins are degraded by liver enzymes. Grapefruit and many medications (such as antibiotics) and herbs (such as St. John's Wort) block the degradation, leading to increased drug levels. Since side effects are proportional to drug level, higher levels may lead to unacceptable consequences, such as muscle breakdown, kidney failure or liver toxicity.

For this reason, **red yeast rice must be treated as a drug, monitoring for safety by laboratory testing.** Physicians should test for CPK (muscle), urea nitrogen and creatinine (kidney), and ALT and AST (liver). It should not be used by pregnant or nursing women, people with or at risk for liver disease or individuals under the age of 20. Warfarin (Coumadin) dose requires adjustment after starting red yeast rice. No studies have

lasted longer than 12 weeks, so long term safety is unknown.

By any other name: Other names for red yeast rice are red rice, red yeast, anka, ang-kak, ankak, angquac, beni-koji, beni-Jiuqu, aga-Jiuqu, aka-koji, xuezhikang, hung-chu and hongqu. Various companies (in parentheses) market it as Cholestin (Pharmanex), Cholestol (Nutura), CholesteSure (Natrol), and Herbalin Ruby Monascus. Zhitai is red yeast rice produced from a mixture of non-purpureus Monascus strains and whole grain rice.

Xuezhikang is a much more potent form of red yeast rice, made with alcohol and processed to remove most rice starch.

Dose: The usual dose of red yeast rice is 600 mg twice a day. It is best absorbed if taken immediately after a meal. As with all herbal products, since there is no industry standardization, the concentration of active components varies with each company's preparation. Chinese herbalists use much higher doses of traditional, typically less potent, red yeast rice preparations.

GETTING THE MOST OUT OF YOUR DOCTOR #6: *Make sure the office tells you the results of tests.*

This sounds logical, but it often doesn't happen. Too often the patient assumes that the office will call if something is wrong and that no news is good news. Since many of us really don't want to hear bad news, we assume the best if there is no call.

But what if the office never gets the results or they get filed in the wrong chart or mislaid? What if you are told they are normal, but there is a significant change from your previous results? For example, your norm may be at the high end of normal of the reference range, but your recent results show a drop to the low end of 'normal'. Unless someone thinks to look at your trend, the drop won't be noticed.

If your doctor orders laboratory, x-ray or other tests, the office can schedule a follow-up appointment to discuss the results. You may have to wait , but you are guaranteed an answer.

If no follow-up appointment is made, ask to be called with the results or to have them sent to you. If you don't receive them, call and ask. If the doctor is concerned that you won't know how to interpret the findings, make an appointment for a discussion. Then ask questions.

Coming in the next issue:

Metabolic syndrome: Over 1/3 of the population at risk
Preventing diabetes
Herbs & Hypertension

Think first, before you act: Because you are an extraordinary manifestation of a tangle of unique genetic material, think first, before applying any or all of these articles' information to your life choices. Dr G's just trying to interpret medical and nutrition news reports for you - within the framework of information already known and the limitations of how the studies were done. Articles this size can't possibly contain every bit of information that was ever published on a subject. Distillation may leave some things out: Hopefully not crucial pieces. Don't crucify me if some new tidbit of information comes along that contradicts what I wrote. This newsletter offers some insight, not The Cure: It's not a doctor's prescription. PLEASE discuss any changes in therapy or lifestyle with your doctor. Subscribing to this newsletter presumes that you accept your own risk when making decisions about your health.