Appendix Four:

## Commercial Carrier Journal and Overdrive Articles


while enhancing employee job

## satisfaction and morale.

## Eileen Cleaves, Senior Editor

scalating medical claims costs are a concern for most trucking companies. They were at Ruan Transportation Management Systems, Des Moines, Ia., at least until they decided to find out what was causing the escalation and what they could do about reducing it.
"We wanted to identify what was causing the rise in our medical claims and to find solutions to reduce those costs," says Susie Holmes, manager of Mega Quality Improvement, Ruan Transportation Management Systems, Des Moines, Ia. "We started by analyzing where our health care dollars were being spent."

What they discovered from the breakdown of health care costs by category over three years, 1990 through 1992, was that heart problems appeared in the top two most expensive categories each year. Over 10\% of their total health care costs were related to heart disease.

That didn't surprise them since
"heart disease and stroke claim more lives-and cost the nation more eco-nomically-than any other health disorder," according to the American Heart Association (AHA).

## Drivers at risk

But what did surprise them was the results of the data when it was analyzed by job category. Truck drivers appeared at the top of the list as having the most heart claims. At the time of the analysis, Ruan had 3,000 employees, half of which were drivers.

Claims for heart problems had a tremendous impact on Ruan's employee benefit costs. "Most employee claims required an average medical leave of absence from work of six weeks," says Holmes. "Fourteen percent were disabled enough to qualify for the long-term disability program." At the time the analysis was done, Ruan's longterm disability program had a 90 -day elimination period.

Further analysis of the heart claims showed that $100 \%$ of the claims filed by employees were males and $71 \%$ of the dependent claims were females. The data was also reviewed by age: $18 \%$ of claims were by persons under age $40 ; 28 \%$ were from ages 41-50; $54 \%$ from ages 51-65.

The analysis was consistent with findings published by the AHA that identify the two major risk factors for heart disease that can't be controlled: sex and age. Men have a greater risk of heart attack than women and age increases incidents of heart disease.

But there are risk factors identified by AHA that contribute to heart problems that can be con-trolled-high blood pressure, smoking, and high blood cholesterol. The more risk factors a person has, the greater the chance of developing heart disease.
"Each factor doubles the chance of developing heart disease," AHA
claims. Theal means ted a person ato hase all dreee of the risk factors is eifth times more likety to fevelop heart disease than someone who has wonk, "Smokers" risk of heart :amak is more than twice that of nonsmokers. In addition comiribuling lactors like obesity, stress and dimbeses mellites allso increase the risk of heart problema Obesiry, in porticular, increases the likelihood of developing high bloed choleskecl aed high blood pressure, which incresse the risk of heart diseave

Since the results of Ruan's amalysis mevealed than hearf-relatad problems were the major cause of is incretising costs, ind that दri-
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vers had the Bighest incident frequency, the company focesed its. poki-goningl eflofis con lifisale reloied factors that could be controllen using is wellness progerm as a treatment.

Weflnest programs advocate preFention of health problems through education, ermphacizing the responsibility of the individual. The programs cin help imporme wok performance irld worker quatity of fo by encourging exer cies, weight lows, betier sleep hatocs, smoking cessatirn, eft. Thery also can belp roduct modia?


## Heart

fruits, candy and donuts. Less than half of the drivers exercifed on the road.

From the responies to the questionnaire, a nutrition program was designed to detemtine the impoct of nutrioin on health risk values.

## Welliness study

A local faxility in Des Moites, in. Was selected as the test site.
The drivers were predominantly thale, midile-iged, with poor nutripice and esercise habits.

Two gropios were formed. The Test Group had fifteen drivers that were ont three days of a time. The fifteen Control Group employees were shot haul drivers, home every evening, and were randomly selected acconding to comparable weight (in pounds) to Test Group drivers.

The drivers were a littk reastant at firs." sags Holmes, "Wul cetce we scarted with the health screening. \#oy became mere intiestad."

All participants went through the same health sereasing, conducted at the job site. Messurements of choiesterot levels. weight, glacose, Fitness, fat analysis, and blood pressure were taken, along with documentation of smoking habiss.

The screening also incladed a modical histary of the driver. Servenings ofoen dewot problems loag before any symptoms are moliced. That's just what happened during Ruan's screening. One driver was identifind with very ligh blood pressure and was urged to seek modicall care to bring it under control. High biood pressure increases the heart's workload, inereasing the fisk of stroke, heart atiack, kidney failure and comgestive heart failure.

Although heredity also has been idemified as a risk facoor for heart disease, "Don't use heredity as an excusc," cautions Roberts. "Having a history of heart disease in your family is one an aummatic indicmor that you will have it. Statistics have thown that heredity faccoes can be overcome, in many cases, with zood lifentyle habits."

The Test Oroup drivers rexived a thorough and in-depth unalysis of

## Keys to a Succrssful Wruness Program

1. Commitment from senior management

- Monetary and persormel support.
* Philosophical support
- Participation in program

2. Clear statement of philosophy, purpose and gaals
3. Defined eraluation systert
4. Nexods assescment

- Survey employee base
- Manggement survey
- In depth analysis of employee health care casts, worker compensation casts. absentacism
* Examine the health status of the workforce

5. Use of effective and quallied professionals
6. Accurare, upto-date information commuricated effecthely
7. Accessibity and corverience
B. Feallstic hurfect
8. Individualized program to meet the needs of each employee
9. Fresults aniented

Provided by Sue Frobens Health Concepts Inc., Des Moines, Inwn.
their health streening results, a fat gram guide, general information pieces throughout the study, and daily, lealrly snacks to take in the truck on the road. The smack bags included a variery of items, including fresh fruie, juices, raisins, prefzels, mimal crackers, tat-free cookies, ete Ruan also provided the Test Group drivers with a brochure, On the Rood to Good' Henibl', that could be inserted iatos their drivers' log books. It conained a variety of information, including lipe for dining cut nutritions snacks and calories bunned during a variely of exercises.

Each driver also received one-on-cone counseling wo create a heilth improvemen program specifically for them. "Truck drives as a gromp have very poor eating and snacking hatics," claims Roterts, 一青 bles personalization to make the program work," he adds. "Some drivers needed help with weight cuntrol, while others needed to reduce their sholeskerol levels or increase their fimess. Many neoded help in more than one area. To be effective, drivers need an individualized program," Roberts centimues.

In comparison, the Control Group drivers roteived only the resalts of their health screening, and brief coutseling

At the end of six months, the health sereening was performed again.

## Test results

The guidelines to be considered "in good healith" wert: a cholestivol level less than or equal to 200 mpdil: HDL between 30-80 mpidi; ghucose berween 96-100 mgidt; body fat less than ce cqual $6017 \%$ for males and $25 \%$ for females; blood persure of 16090 or less; and a fitness rating of "good" to "outsanding." The litress rating was determined by the Techumseh Step Test for Carclio-Respinatory Endurance and involved the participant sterping on and ofT a bench for three miaules. After a 10 second resh, the pule would be coumed for 30 seconds.

The issults of the stady indicaned that wellness is a key component in an incridual's life and a key componert in health care costs.

The Teas Gmup's cholemand decreased 25 mg (258); weight decrensed am wernge of four pounds (2\%): ghoose droped $02 \%$ Gitress tevels improwed 4\%; HDD chales texul ratio improved .03 ${ }^{\text {a }}$, body for decreased 4\%; blood pressure remainal the same.

The Control Group saw improvement only in cholesterct, glocose

Gentint
For acopis of Ou the finuif w Goat Heairh! write to: Eileen Cleaves CCJ, 201 King of Prussia Road. Radnor, Pz. 19089 or fax your request 10 her at $610-964+4512$.

## Heart

and body fat. This, claims Holmes, is attributed to the initial assessments, and brief consultations.

## Cholesterol level is important

The most significant result was the decrease in cholesterol levels. "The group's average cholesterol count decreased 25 mg , which according to health studies may reduce the risk of heart attack 50 to $100 \%$," claims Holmes. This was very important because the risk of heart disease rises as blood cholesterol levels increase. Cholesterol levels are affected by age, sex, heredity and diet. When other risk factors are present-high blood pressure and cigarette smoke-the risk increases even more, according to AHA.
"What was so significant about the results of the study was the fact that every one of the drivers in the program had some degree of success. Every driver had a change in at least one area and in some cases, two or three different areas," says Roberts.

There were a number of individual success stories: one male lost 24 pounds, which produced a $10 \%$ reduction in body fat, and dropped his cholesterol 27 points to 180 mg ; another male dropped his cholesterol 29 points; a third male dropped his cholesterol 67 points to 179 mg . A female dropped her weight and cholesterol $8 \%$, and two employees quit smoking.

## Education is a key

Serious, long-term, lifestyle change is a process that takes education, reinforcement, and determination on the part of the individual to reach set goals. Although a company can take the initiative to provide the information and incentive, "The responsibility ultimately lies


The health screening continues as Sue Roberts observes Ruan driver Dennis Bean during step test, designed to evaluate an individual's cardiovascular fitness. Afterwards, Dennis' pulse will be taken and compared to predetermined number of beats for his height, weight and age.
with the individual," says Holmes.
"Drivers really appreciated the information received during the study and had good feelings towards the company for providing it," she adds. An evaluation form completed at the end of the program (on a scale of 1 to 5 , with 5 being excellent) gave the 'value of health screening' a 4.25 and 'how informative was the screening' a 4.50. In answer to the question, did the project change your eating habits, the drivers responded with a 3.40.

## Proactive approach used

Based on the decline in cholesterol readings, the driver nutrition program could have been a catalyst

## The future of Driver Wellness Programs

Sue Roberts Health Concepts, Inc., Des Moines, Ia., is developing, testing and evaluating driver wellness programs for the National Private Truck Council, Alexandria, Va., under a grant from the Federal Highway Administration Office of Motor Carriers. Statistically valid information was collected from truck drivers during the first phase of the project. The results will be released in May. The second phase-a six-month pilot test of a prototype wellness program specifically designed for drivers, including for hire, private, and motor coach-will be implemented in a minimum of five fleets this fall. Results of the second phase of the program
in avoiding potential heart claims. That is why Ruan continues to use a proactive approach to wellness.

Beside sending wellness booklets to the homes of its 4,200 employees, including its 2,500 truck drivers, on a quarterly basis, Ruan pays $100 \%$ of the cost of an employee (and employee's spouse), up to a specified cap, which increases based on age. Ruan also sponsors a wellness reimbursement program, where employees may be reimbursed $50 \%$ up to $\$ 200$ per year, for membership at a fitness facility, or for participating in a weight reduction program or smoking-cessation program.

In the past Ruan conducted a Healthy Lifestyle Discount Program, a three component program rewarding employees for not smoking, passing an annual physical, and for a spouse passing an annual physical. Passing an annual physical required verification by the employee's physician that the employee (or spouse) passed five of the six following criteria: weight, blood pressure, cholesterol, seat belt use, exercising, and a cancer checkup (using American Cancer Society guidelines). This program was discontinued when the company implemented its cafeteria plan in 1996, because of complicated administration issues.
The decline in death rates from cardiovascular disease in the U.S. is due largely to the public's adopting a more healthful lifestyle, according to the AHA. This underscores why it is important to advocate prevention strategies by educating people about risk factors and lifestyle changes to reduce risk.

And that is just what Ruan is doing. By educating their employees and their families about potential health problems and ways to avoid them, they are trying to improve the health and productivity of its drivers today, while reducing the need for expensive health care services in the future. $\square$

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## Heart

Truckers are more at risk for heart disease than the general population, but they can prevent it just the same / By Charles Cox

One Saturday morning, 42 -year-old Al Rasmussen, a Stevens Point, Wisconsin, owner-operator, left on a trip that had four stops: three in Pennsylvania and onem Annapolis, Maryland. As he unloaded one of the drops on Monday, he felt a mild pain in his chest. "I didn't think too much about it," Rasmussen recalls. "I'd never been sick a day in my life. I've never smoked, and I've never been really overweight."

As the day progressed, the pain persisted but still wasn't severe. "I didn't think it was anything to be concerned about. I finished unloading and started on my way to the next stop."

After dinner, Rasmussen got back on the road. Despite increasing pain, he still wasn't too worried. "I figured if I was having a heart attack, I would already be dead," he says.

When he got to his last stop, it was too late to unload, so he checked into a motel. Finally, the pain got so bad, Rasmussen called a hospital. A doctor suggested he come in. About an hour later, he did. By then, it had been 10 hours since the first pains. inst an aching sensation in the

When he got to the hospital, doctors told Rasmussen he'd had a heart attack. He spent 12 days in the hospital and 90 more recovering at home.

Eight years later, Rasmussen suffered another attack. As he did the first time, he recuperated at home for a while, then returned to work. He and his doctor agreed that as long as he felt fine, bypass surgery wasn't necessary.


Dccupational hazard? One study shows that nearly three-quarters of truckers are overweight - a leadino factor in heart disease.
A year later, Rasmussen went to the hospital again. While undergoing an angiogram to locate blockage in his arteries, He had another heart attack. This time it was massive. "It scared the heck out of me," he recalls. "I've never felt pain like that before, and I never want to again."

It took surgeons more than six hours to complete a quintuple bypass.

## A risky situation

Coronary heart disease is America's No. 1 killer. According to the American Heart Association, 1.1 million Americans will have a heart attack this year. A third of those will die. That's one attack every 29 seconds, and one death every minute.

While no one is immune to heart disease, truckers are particularly susceptible. Trucking lends itself to a sedentary life and poor eating habits, which lead to obesity. In addition, trucking is a stressful job, which is a factor in high blood pressure. All of these are major risk factors in heart disease, and together, they put truckers at greater risk than the general population.

If you're not sure of your risk factors, get a checkup, including a blood lipid panel and blood chemistry. A good checkup can alert you to problems before they develop. Early detection gives your doctor a better chance of successfully treating heart disease.

Doctors urge everyone over 30 to get their cholesterol and blood fat levels checked yearly. Gerald Fletcher, a cardiologist at the Mayo Clinic in Jacksonville, Florida, advises adults to find out their blood cholesterol number. Generally, a number below 200 is good. A level of 200240 is borderline, and you should modify your diet and exercise to bring it down. Over 240 is considered high, and your doctor might recommend a cholesterol-lower-

## Anatomy of a Heart attack

Aheart attack is usually the result of coronary artery disease, which results when one or more of the blood vessels supplying the heart muscle with blood become clogged. When the heart is deprived of oxygen and other essential nutrients, angina, or chest pain, results. In the case of partial blockage, only part of the heart muscle might be involved, and the heart attack is mild.

In a healthy person, arteries have smooth, muscular walls that are elastic enough to handle extreme variations in blood pressure. In some people, however, the inside walls of the arteries get damaged. At the site of the damage, fats in the bloodstream cause a buildup called plaque. If not treated, enough plaque can accumulate to restrict blood flow. Blood that can't flow freely can clot and block the arteries. When blood does not reach the heart, the muscle begins to malfunction.

If the damage isn't massive, early intervention can save the heart. Doctors can give clot-dissolving drugs to restore the flow of blood. They also can perform bal-


Walking just 20 minutes a day several times a week can lower your risk for a heart attack.
ing drug in addition to a low-fat, low-cholesterol diet and an aggressive exercise program.

Besides knowing your cholesterol level, doctors recommend everyone over 40 know his average blood pressure. High blood pressure, or (Continued on page 118)

loon angioplasty, a process in which a tiny balloon is inserted into the blocked artery and is inflated to push the plaque to the sides of the artery walls.

A heart attack can kill instantly, but it takes decades for arterial blockage, called atherosclorosis, to develop. Physicians say it can begin in childhood. However, there are no symptoms until the victim has chest pain. By then, it's too late to prevent or cure atherosclorosis; it can only be treated.

Our cardiovascular system tirelessly pumps 5 quarts of blood through 60,000 miles of vessels every minute. For most people, it works without a hitch for 70 or so years. But for some, things go wrong without warning.

(Continued from page 30)
hypertension, means the heart and circulatory system must work harder. "The more pressure that's
exerted on the cardiovascular system, the faster it wears out," says Charles Briggs, a general practitioner and owner of American Business Medical Services at the TravelCenters of America in Jessup, Maryland. For normal adults, systolic pressure (the first number) should be under 140, and diastolic


## Keys to a Healthier

CCORDING TO A SURVEY by the U.S. Department of Agriculture, 30 percent of men and 45 percent of women say they never exercise. In addition, the USDA reports that on any given day, 50 percent of people don't eat a single piece of fruit. A balanced diet and regular exercise are the keys to avoiding coronary artery disease.

The adage "You are what you eat" holds true. If you eat lots of fat, you get fat. While recent years have brought a broader range of healthier choices to truck stop restaurant menus, eating on the road can be challenging.
A study done by the Private Fleet Management Institute and Sue Roberts Health Concepts of Des Moines, Iowa, found that at one trucking company where 300 drivers were surveyed, burgers and steaks were named as the No. 1 dinner choice. Additionally, 48 percent said potato chips were the snack they preferred.

The healthiest diets are based primarily on fruits, vegetables and grains. These foods are mostly carbohydrates and have 60 percent fewer calories per ounce than foods such as meat and cheese, which are protein and fat. But you do need a balanced diet.

The "Nutrition Almanac" recommends adults get 60-100 grams of protein a day. A grilled chicken sandwich has about 25 grams of protein. A cup of low-fat cottage cheese has about 30 , and a $3 \quad 1 / 2$-ounce steak (not a 12 ounce sirloin) has about 26 . In addition, no more than 30 percent of your daily caloric intake should be from calories from fat.

A healthy diet should be com-

## heart

bined with regular aerobic exercise. Even a little can bring big benefits. Just 10-20 minutes of aerobic exercise - the kind that gets your heart and breathing rate up and keeps it there - a day, four days a week, can strengthen your cardiovascular system. Tarping, lifting and fighting traffic are not aerobic exercise. Walking, jogging and bike riding are.

In an effort to help truckers get fit, gyms at truck stops are popping up around the country. Rolling Strong, a Richardson, Texas-based company, recently opened three fully equipped gyms at Pilot locations in Little Rock, Arkansas, Oklahoma City and Knoxville, Tennessee, off Interstate 40 . A fourth is slated to open at the Bordentown, New Jersey, Petro this month. Each includes treadmills, stationary bikes and a stairclimber, as well as weight machines.
"A regular program of cardiovascular exercise can, in a matter of months, reduce your resting heart rate," says Jeff Abrams, president of Rolling Strong. "When you do that, your heart doesn't beat as fast and you live longer."

But you don't have to go to a gym to exercise. If you've been inactive for awhile, start walking. You can do it anywhere without special equipment. Start with 10 minutes once or twice a day for several weeks, then increase to 15 minutes, then 20 . Before you know it, you'll feel better, have more energy and even sleep better.

You should, however, check with your doctor before beginning any exercise regimen.
pressure (the second number) should be under 90

High blood pressure affects more than 50 million people in the United States, but truckers have a slightly greater incidence compared with the general population, according to a 1997 report by the National Private Truck Council's Private Fleet

Management Institute and Sue Roberts Health Concepts.

Prepared for the Federal Highway Administration's Office of Motor Carriers, the study, "Design, Development and Evaluation of Driver Wellness Programs," set out to determine the state of health, health behavior and

health care costs of commercial vehicle drivers. It found that in a 1993 study of nearly 3,000 truckers, 33 percent had high blood pressure, compared to 25 percent of the general population.
Besides high cholesterol levels and high blood pressure, other risk factors include:

- Smoking. Smoking substantially increases your risk of cardiovascular disease. It constricts the arteries and makes them more susceptible to clogging. The NPTC/Roberts study found that 54 percent of truckers smoke cigarettes or cigars. Compared with the general popula-


## Wilson 500D Trucker = CB At It's Best!

Tests Show That Wilson Coils Have The Highest Efficiency Of All CB Trucker Antennas*

Dr. Dwight Heim, (PH. D. Electrical Engineering, Professor Emeritus, University of Michigan) an independent consultant, conducted a test and comparison on the coils of some of the antennas used by truckers. A chart from his complete report is shown below.
The Wilson 5000 Trucker CB antenna was shown to have the highest " $Q$ " rating of all antenna coils tested. The " $Q$ " is the standard engineering measurement of efficiency of the antenna coil. The higher the "Q", the higher the efficiency, which means higher performance from the antenna using that coil..

| Antenna | "Q" | Antenna | "Q" |
| :---: | :---: | :---: | :---: |
| Wilson 5000 <br> (patent pending) | 864 | American Pride Rolling Thunder | 280 |
| Wilson 2000 (patented) | 667 | Super Penetrator | 240 |
| Antron 21K | 500 | Hustler RM-IIS | 234 |
| Platinum Series: <br> (Terminator II) <br> Truck Spec TS-2000 <br> Road-Pro RPS-2000 | 471 | Halo | 210 |
| Whisky Still - Super | 442 | K-40 Trucker | 110 |
| Whisky Still - Jt. | 434 | Solarcon 1.2K Chrome | 86 |
| Wonder Works 102 | 367 | Solarcon 1.2K Gold | 72 |

The higher rating for the Trucker 5000 coil is a result of proper engineering practices, such as the correct length-to-diameter ratio for the wire size, and a silver plated $3 / 16^{\prime \prime}$ solid copper wire in manufacturing the loading coil.

This combination provides better efficiency and higher performance properties, thereby giving more power gain than any $1 / 4^{\prime \prime}$ or $3 / 8^{\prime \prime}$ chrome plated tubing antenna coil.

The special design of the 5000 Trucker CB antenna will not ice up and stop working or break, even in severe winter conditions. The high engineering thermoplastic cover protects the coil from the harsh environmental conditions encountered on the open road. A dirty antenna coil can measurably cut the performance characteristics of that antenna, and one that is covered with ice characteristics of that antenna, and one that
can cut the performance by as much as $50 \%$.
The Wilson Trucker 5000 is the best performing center loaded antenna available for the operator. The Wilson Trucker 5000 handles 5000 watts AM, 20,000 watts SSB (ICAS rating)

The Trucker 5000 is available with your choice of shaft lengths of $5^{\prime \prime}$ or $10^{\prime \prime}$, and mounts into a standard $3 / 8^{\prime \prime} \times 24$ threaded mount. It is recommended that only a stainless steel stud mount be used with the Trucker 5000. Wilson Antenna offers a 1 year warranty and a 15 -day money back performance guarantee on the Trucker antennas.


Wilson 5000

Wilson Antenna now manufactures the top two most powerful trucker CB antennas available. If you need a top performing CB antenna, yet do not require the big power handling capabilities of the Trucker 5000 , the 3500 watt Trucker 2000 is still available to give you a choice yet still maintaining quality and high performance. For those drivers using the anteater type tractors, Wilson provides the SW-2000 with a longer shaft and a shorter whip. This allows the loading coil to be above the roof yet stay below the height restrictions. Either way - you can't go wrong with a Wilson Antenna!

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## Antenna, Inc.

 1181 Grier Drive, Suite A • Las Vegas, NV 89119 *Of all CB Trucker antennas tested by Dr. Dwight Heim.tion, that's 29 percent higher.

- Family history. "This is one of the most ignored yet one of the most important risk factors," Fletcher says. If your mother, father or more than one aunt or uncle has coronary artery disease, your risk increases greatly.
- Being overweight. Carrying around more weight than you should makes your heart work harder. In addition, overweight people often have high blood pressure and high cholesterol. The NPTC/Roberts study found that 73 percent of truck drivers are overweight, 40 percent higher than the general population.
- Diahetes. For reasons scientists don't fully understand, diabetes increases blood cholesterol levels, contributing to a higher risk of atherosclorosis. Being overweight also is a factor in diabetes.
- Inactivity. Researchers have long recognized the health risks associated with a sedentary lifestyle - and sitting behind the wheel of a truck for 10 hours a day is about as sedentary as you can get. The heart is a muscle, and it needs regular exercise to stay fit.
- Stress. Dealing with traffic, shippers and receivers is no easy task. Some days, it's enough to frazzle you. Stress can make your blood pressure rise and prime you for a heart attack.
Any one of these risk factors should raise a red flag, but they often go hand in hand. A trucker with multiple risk factors is in a particularly dangerous situation. Fletcher recommends that each person be evaluated in terms of all his risk factors and work to reduce those he can.


## Heed the warnings

Recognizing the warning signs of a heart attack can save your life. However, symptoms aren't always
clear-cut. and they are different for men and women. However, there are "classic" symptoms, including pain or pressure in the chest, accompanied by pain radiating into one or both arms or the neck. sweating, nausea and weakness.

You can have chest pain without having a heart attack. This corn-
mon pain can occur when you exert yourself, but goes away when you stop. With a heart attack, pain persists even after you stop.

Sometimes the pain of gastrointestinal problems, such as acid reflux or a hernia, mimics the pain of a heart attack. But there are differences, Fletcher says. "The pain


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associated wivrh a heart attack can be more of a disomfort rather than overt [sharp] pain. It's often a feeling of pressure inside the chest, a grabbing sensation, or a feeling of extreme fullness or a feeling much like you would have if someone were sitting on your chest. If also can be a crushing pain."

Regardless of the type or severity of the chest pain, if it is accompanied by nausea or pain in the arms or neck, you should get medical attention immediately, Fletcher says. Also look at how long the pain persists. "If you have periodic heartburn that you remedy with an antacid you pretty well know haw long it takes to get relief," he says.

AHA says many lives could be saved if heart attack victims got medial mention within an hour of rhe firspain. "We can do so much more today with early intervention," Fletcher says. "Many emergency vehicles are equipped with defibrillators and medications that can be used while en route to a medical facility. Paramedics are also well trained to administer CPR. The important thing is not IO ignore the signs."

Why don't people seek help sooner, especially when their chances of survival increase greatly with rapid response? "Too many people feel that a heart attack is something that can't happen to them," Fletcher says. "It can happen to other people, they think, but nor to me. That's probably the biggest reason so many don't survive that first attack."

Rasmussen survived not only his first attack, but also subsequent attacks and quintuple bypass surgery. He lost weight and eats healthier. Today he feels fine. Had he known the" what he knows now, he'd have gotten his blood cholesrerol levels checked earlier, and may have avoided heart disease altogether.

## Appendix Five: CEO Letter

Date

Driver
Address
City, State, Zip

Dear \{first name\},
Our company has been selected to participate in an innovative health promotion study. This program is geared especially for drivers and their families.

Flexible, personal and informative, you benefit with:

- more energy, get more done
- reducing risk factors for diseases and associated costs
- losing weight
- relaxing
- enjoying naturally good food, natural movement
- connecting with self, others, the world
- empowerment to make choices for your health and your world

If you are interested in working on your personal health promotion - at your own pace - review the enclosed brochure and contact the $\qquad$ department to sign up. All health information is strictly confidential between you and the health promotion company providing the services.

Thanks for your participation. Health improvements will benefit you as well as improve safety.
Sincerely,
$\{$ John Smith, CEO $\}$

## Lifestyle

Please print:
Name $\qquad$ Age: $\qquad$ Sex: M/F
Home Address:
Company Address: $\qquad$ Home Phone: $\qquad$ Work Phone
Take a few minutes to privately assess the refueling, rejuvenating, relaxing and relating dimensions of your life with the questions listed here. Be honest in your answers. Try not to analyze how you think you should respond, but circle the answer that first comes to mind. Keep this record in a safe place, and use it to evaluate changes and improvements as you progress.


## Rejuvenating

| Almost | Sometimes | Almost |
| :--- | :--- | :--- |
| Never |  | Always |

15. I keep myself in top condition by balancing the type and amount of food I eat with exercise to keep my fitness level excellent and to maintain a healthy weight.
16. I do activities that increase my heart rate and get me sweating at least 3 times each week.
17. I walk at least 20 minutes each day.
18. I participate in a sport or leisure activity each week. $\quad 1 \begin{array}{lllll}5 & 3 & 4 & 5\end{array}$
19. I do activities that increase my strength. $\quad 1 \begin{array}{llllll} & 2 & 3 & 4 & 5\end{array}$
20. I take stretch breaks every 2 hours when sitting for long periods. $\begin{array}{llllll}1 & 2 & 3 & 4 & 5\end{array}$

Total Score
Relaxing
21. I take long walks, hikes, or other outings to actively explore and appreciate my environment and the world around me.
22. I express anger appropriately and do not become violent. $\quad 1 \begin{array}{llllll}5 & 3 & 4 & 5\end{array}$
23. I decide that certain things are not worth worrying about. $\quad 1 \begin{array}{llllll}5 & 2 & 3 & 4 & 5\end{array}$
24. I am guided by my inner self rather than from expectations of others. $1 \begin{array}{lllll} & 2 & 3 & 4 & 5\end{array}$
25. I make time for myself to relax at least 20 minutes each day. $\begin{array}{lllllll} & 1 & 2 & 3 & 4 & 5\end{array}$
26. I schedule regular vacations/time from work and do so without feeling guilty.
27. I know how to have fun and can generate my own.
28. I laugh often and easily.
29. I take time to play with and enjoy my family and friends.

| 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- |

30. I express myself through hobbies or the arts and take time each week to enjoy them.
31. I stay awake and feel refreshed when I need to.

| 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- |

Total Score


## Health Knowledge

50. My blood pressure is $\qquad$
51. An ideal cholesterol level is
a) $\leq 300 \mathrm{mg} \%$
b) $\leq 240 \mathrm{mg} \%$
c) $100+$ my age
52. A fasting blood sugar of $\qquad$ would suggest diabetes.
a) $90 \mathrm{mg} \%$
b) $120 \mathrm{mg} \%$
c) $50 \mathrm{mg} \%$
d) $140 \mathrm{mg} \%$
53. A high blood cholesterol is associated with both heart disease and stroke.
a) true
b) false
54. A high resting pulse indicates good physical shape.
A) true
B) false
55. Risk factors associated with heart disease include
A) smoking
B) diabetes
C) high fat diet
D) $a \& c$
E) all of the above

Scoring system being developed

## Appendix Seven: Health Assessment Procedure

## Clinic Design

Each health assessment clinic at various pilot company on-site locations and truck stops are run by licensed, trained health professionals. Each driver will participate in the assessment in the following manner:

| Registration <br> minutes <br> $\Downarrow$ <br> Lifestyle/Written Assessment <br> 15 minutes <br> $\Downarrow$ |
| :---: |
| Physical Assessment |
| Blood Work |
| Body Mass Index |
| Blood Pressure |
| Pulse |
| Aerobic Fitness |
| Flexibility Fitness |
| Strength Fitness |
| 15 minutes |
| $\Downarrow$ |
| Coaching/Goal setting |
| 15 minutes |

The expectation is to have the driver through the clinic in 45-60 minutes

## I. Registration

Drivers sign in and complete necessary paperwork including health history and consent form to complete assessment.

## II. Lifestyle Written Assessment

A Lifestyle Written Assessment is completed which addresses beliefs, behaviors and knowledge.

## III. Physical Assessment

## Blood Work

Total blood cholesterol, HDL cholesterol, and total cholesterol/HDL ratio are extremely important indicators of risk of coronary heart disease (CHD). Because CHD is a major disease problem, these measurements are done. Also, because onsite goal setting is offered, immediate results are needed. This is done using a Cholestech $L^{*} \mathrm{D} * \mathrm{X}$ which obtains results through a fingerstick. Standards are: Passing: HDL \% of Total $\geq 22 \%$; Ideal: HDL\% of Total $\geq 25 \%$.

Blood Glucose (non-fasting) is used as a screening indicator for both diabetes and hypoglycemia. It is done using the fingerstick method and a glucometer with immediate results available for use in goal setting. Standards are: Passing: $60-140 \mathrm{mg} \%$; Ideal: $60-120 \mathrm{mg} \%$.

## Body Mass Index

Body Mass Index (BMI) is a measurement based on height and weight, and indicates risk of developing weight related health problems. It is a non-invasive method of measuring obesity more accurate than height-weight tables. A weight scale and height measurement tool are needed, as weight and height are the factors used in calculation.

The calculation used is: $\mathrm{Kg} /$ Meters $^{2}=$ BMI. Or, the following chart is used
Standards are: $\quad$ Passing $\quad$ BMI $<27$

$$
\text { Ideal } \quad \mathrm{BMI}<25
$$

| Body Mass Index (BMI)* |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Height (tr, in) |  |  |  |  |  |  |  |  |
| $\left.\left\lvert\, \begin{array}{c} \text { Weignt } \\ (\mathrm{lb}) \end{array}\right.\right)$ | 4'10" | $5{ }^{\prime} 0^{\prime \prime}$ | 5'2" | 5'4" | 5'6" | 5'8" | $5^{\prime} 10^{\prime \prime}$ | $6^{\prime} 0^{\prime \prime}$ | 6'2" |
| 125 | 26 | 24 | 23 | 22 | 20 | 19 | 18 | 17 | 16 |
| 130 | 27 | 25 | 24 | 22 | 21 | 20 | 19 | 18 | 17 |
| 135 | 28 | 26 | 25 | 23 | 22 | 21 | 19 | 18 | 17 |
| 140 | 29 | 27 | 26 | 24 | 23 | 21 | 20 | 19 | 18 |
| 145 | 30 | 28 | 27 | 25 | 23 | 22 | 21 | 20 | 19 |
| 150 | 31 | 29 | 27 | 26 | 24 | 23 | 22 | 20 | 19 |
| 155 | 32 | 30 | 28 | 27 | 25 | 24 | 22 | 21 | 20 |
| 160 | 34 | 31 | 29 | 28 | 26 | 24 | 23 | 22 | 21 |
| 165 | 35 | 32 | 30 | 28 | 27 | 25 | 24 | 22 | 21 |
| 170 | 36 | 33 | 31 | 29 | 28 | 26 | 24 | 23 | 22 |
| 175 | 37 | 34 | 32 | 30 | 28 | 27 | 25 | 24 | 23 |
| 180 | 38 | 35 | 33 | 31 | 29 | 27 | 26 | 25 | 23 |
| 185 | 39 | 36 | 34 | 32 | 30 | 28 | 27 | 25 | 24 |
| 190 | 40 | 37 | 35 | 33 | 31 | 29 | 27 | 26 | 24 |
| 195 | 41 | 38 | 36 | 34 | 32 | 30 | 28 | 27 | 25 |
| 200 | 42 | 39 | 37 | 34 | 32 | 30 | 29 | 27 | 26 |
| 205 | 43 | 40 | 38 | 35 | 33 | 31 | 29 | 28 | 26 |
| 210 | 44 | 41 | 38 | 36 | 34 | 32 | 30 | 29 | 27 |
| 215 | 45 | 42 | 39 | 37 | 35 | 33 | 31 | 29 | 28 |
| 220 | 46 | 43 | 40 | 38 | 36 | 34 | 32 | 30 | 28 |
| 225 | 47 | 44 | 41 | 39 | 36 | 34 | 32 | 31 | 29 |
| 230 | 48 | 45 | 42 | 40 | 37 | 35 | 33 | 31 | 30 |
| BMI values that correlate to a higher risk of adverse effects on health $S M \mathrm{~N} \geq 30 \mathrm{kghm}{ }^{2} \quad S_{N H} \geq 27 \mathrm{kgho}^{2}$ in the presence of fist factars |  |  |  |  |  |  |  |  |  |

## Blood Pressure

Screening for hypertension is done with a blood pressure reading using a standard blood pressure cuff and sphygmomanometer. A large cuff is available for accurate readings on larger arms. If an elevated reading ( $>140 / 90 \mathrm{mmHg}$ ) is found, a second reading is performed and used. Standards used are:
Passing $\leq 160 / 90 \mathrm{mmHg}$; Ideal $\leq 120 / 80 \mathrm{mmHg}$.

## Pulse

A baseline pulse is taken as an indicator of exercise frequency. Factors which could affect this are taken into consideration by the tester. Standards used are: Passing $\leq 85$ bpm (beats per minute); Ideal $\leq 70 \mathrm{bpm}$

## Aerobic Fitness

Important to job endurance and risk in many disease states is aerobic fitness. A relatively quick, easy to administer aerobic fitness test is the 3-minute step test. This is done using the following methodology:

1. Keeping time with a metronome set at 96 beats per minute, the individual steps up and down (right foot up, left foot up, then right foot down, left foot down, and repeat) on an 8 inch step bench.
2. As soon as the individual masters cadence, they step for exactly three minutes.
3. At the end of 3 minutes, the individual stops stepping and immediately sits in a chair.
4. Exactly 30 seconds after stopping, the individual's pulse is taken for 30 seconds and compared to the following standards for their age and sex.

## The Techumseh Step Test for Cardio-Respiratory Endurance

| Fitness Rating <br> (in number of beats) | $\mathbf{2 0 - 2 9}$ | Age |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | F | $\mathbf{M 0 - 3 9}$ | F | $\mathbf{M}$ | F | $\mathbf{4 0 - 4 9}$ | $\mathbf{5 0}$ and over |  |  |
| Excellent | $39-42$ | $34-36$ | $39-42$ | $35-38$ | $41-43$ | $37-39$ | $41-44$ | $37-40$ |  |
| Good | $43-44$ | $37-40$ | $43-45$ | $39-41$ | $44-45$ | $40-42$ | $45-47$ | $41-43$ |  |
| Average | $45-46$ | $41-42$ | $46-47$ | $42-43$ | $46-47$ | $43-44$ | $48-49$ | $44-45$ |  |
| Fair | $47-52$ | $42-47$ | $48-53$ | $44-47$ | $48-54$ | $45-49$ | $50-55$ | $46-49$ |  |
| Low | $53-56$ | $48-51$ | $54-56$ | $48-51$ | $55-57$ | $50-53$ | $56-58$ | $50-53$ |  |
| Poor | $56-57$ | $52-59$ | $56-57$ | $52-59$ | $58-67$ | $54-60$ | $59-66$ | $54-62$ |  |

Adapted from:
Nutrition, Weight Control and Exercise by Frank I. Katch and William D McArdle. $3^{\text {rd }}$ ed. Copyright 1988 by Lea \& Febiger. All rights reserved.

Physical Activity and Health: An Epidemiologic Study of an Entire Community H.J. Montoye. Prentice Hall, Englewood Cliffs, NJ 1975.

## Flexibility

Sit and reach flexibility screening is used as an indicator of flexibility and risk for back pain/injury. The following methodology is used:

1. Use a 12 " high box.
2. 2. Place a yardstick on the top, with $15^{\prime \prime}$ extending beyond the top of the box.
1. Have the participant sit on the floor with sole of feet against the box.
2. Place arms in front, one hand on top of the other, and reach forward. Hold for 1 second. Do not bounce. Client should not feel pulling in back or thighs.
3. Repeat two more times. Take measurement on last stretch, and compare to the following standards:

| Rating | Women | Men |
| :--- | :--- | :--- |
| Excellent | $23+"$ | $21+"$ |
| Good | $201 / 4-23 "$ | $181 / 4-21^{\prime \prime}$ |
| Average | $161 / 4-20^{\prime \prime}$ | $131 / 4-18^{\prime \prime}$ |
| Low | $12-16^{\prime \prime}$ | $11-13 "$ |
| Poor | Less than 12" | Less than 11" |

## Strength

Upper body strength is important to job endurance, safety and reduced risk of injury. Strength is tested with simple push-ups using the following methodology:

1. Instruct driver to lie down on the floor on their stomach. Hands should be placed next to the shoulders, palms facing down. Feet should be at a right angle to the floor.
2. Have driver slowly push with hands to raise torso from the floor while exhaling, keeping back straight and elbows bent.
Men: keep legs straight
Women: keep bent knees on floor
3. Have drivers slowly lower to the floor to original position.
4. Repeat as many times as possible.
5. Record score according to the following table.

## Number of Repetitions

| Age $<$ 35 | Age $>\mathbf{3 5}$ | Level of Strength |
| :--- | :--- | :--- |
| $0-11$ | $0-9$ | Poor |
| $12-21$ | $10-19$ | Average |
| $22-31$ | $20-29$ | Good |
| $>32$ |  | $>30 \quad$ Excellent |

## IV. Coaching and Goal Setting

A professional with education and experience in preventive/holistic medicine with coaching and goal setting skills works with each driver to explain lifestyle written assessment results, their physical assessment results, and helps the driver set specific individualized goals for improvement.

## Exclusion Guidelines for Testing

The following conditions exclude an individual from the following tests:

## Glucose and Cholesterol

1. Current skin disorder such that a fingerstick may cause severe bruising, injury or infection.
2. Known communicable blood borne pathogen such as HIV/AIDS or hepatitis viruses where the individual chooses not to have procedure.
3. Hemophilia or other bleeding disorders.
4. Person is extremely nervous to the point of fainting or simply refuses to have the procedure.

## Blood Pressure

1. Arm is so large that large cuff does not fit.

## Aerobic Fitness

1. Current back, knee, ankle or foot problem.
2. History of heart disease, heart attack or heart surgery.
3. Blood pressure $>140 / 90 \mathrm{mmHg}$ after two tests.

Exception: regular exerciser with either systolic or diastolic within 5 mmHg of guideline and no other risk factor such as:

$$
\text { Age > } 55 \text { years }
$$

HDL cholesterol < $15 \%$ of total
4. Pregnancy unless meeting following conditions:
a. pulse stays under 140 beats per minute during testing (take at 1 and 2 minutes)
b. no problems with pregnancy
c. less than 7 months pregnant
d. have maintained regular activity levels during pregnancy
5. Age greater than 65 years.
6. Resting pulse greater than 105 beats per minute.
7. Glucose greater than $200 \mathrm{mg} \%$ or less than $50 \mathrm{mg} \%$.
8. HDL cholesterol less than $15 \%$ of total, plus female 55 years or older or male 45 years or older; HDL cholesterol less than $10 \%$ of total.
9. Recent surgery where physician has not released employee for regular activity.

## Flexibility

1. Current back or shoulder problem.
2. Current foot or ankle problem which precludes employee from placing foot against bench.
3. Current broken bone in leg, ankle or foot.
4. Pregnancy $\geq 6$ months.

## Data Collection

Individual lifestyle data, physical data and goal setting data are collected on forms for the driver to take with them with a copy kept to calculate aggregate group data.

## Appendix Eight: Health Assessment - Physical

Please print:
Name:
Age:
Sex: M / F
Home Address:
Company Address:
Home Phone: $\qquad$ Work Phone

## Health History

1. Please check any of the following that apply to you:

2. Check any of the following that apply to your family:
__high cholesterol _ _heart disease $\quad$ _ high blood pressure
3. Do you currently have pain in the back, knees, joints, hips, ankles or feet? __ Yes __ No
4. Have you had a serious back or spinal injury? __ Yes ___ No
5. Is your physical activity currently limited by a physician? __ Yes ___ No
6. Are you currently under the care of a physician? __ Yes ___No Condition $\qquad$
7. Please list current medications and the conditions taken for:

Release: I consent to the following tests and procedures, including the drawing of a fingerstick blood sample for the purpose of measuring my blood cholesterol and glucose levels and various tests for assessment of physical fitness. I understand these are routine procedures, but that the practice of medicine is not an exact science and that testing may involve risk of injury. I acknowledge that no guarantees have been made as to the results of any procedure or test given and that these are for screening purposes only and do not take the place of a physician's exam. I state that I have no physical conditions that should prevent me from participating in these tests.

Signature: $\qquad$ Date: $\qquad$

| To be completed by testing personnel |  |  |
| :---: | :---: | :---: |
| Test | Results | Passing |
| Total Cholesterol (mg\%) |  |  |
| HDL Cholesterol (mg\%) |  |  |
| HDL \% of Total |  | $\geq 22 \%$ |
| Serum Glucose (mg\%) _ $\quad$ - $0-140 \mathrm{mg} \%$ |  |  |
| Weight ___ Height |  |  |
| Body Mass Index _ 25-26.9 |  |  |
| Pulse (bpm) |  | $\leq 85 \mathrm{bpm}$ |
| Blood Pressure ( mmHg ) |  | $\leq 160 / 90 \mathrm{mmHg}$ |
| Aerobic Fitness |  | $\geq$ good |
| Strength Fitness |  | $\geq$ good |
| Flexibility Fitness (in.) |  | male > 13" |
| female > | 6 C fem | $20^{\prime \prime}$ |

Ideal
Date: Follow-up results
female > 16" female > 20"

## Appendix Nine: Health Assessment - Goal Setting

Please print:
Name:___ Age:___ Sex: M/F
Home Address:
Company Address: $\qquad$
Home Phone: $\qquad$ Work Phone $\qquad$

Counselor: $\qquad$ Phone number: ( $\qquad$ ) Date: $\qquad$

