

HEALTH AND STRESS

The Newsletter of The American Institute of Stress

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WHY ARE WE #1 ON WEB SEARCHES FOR STRESS?

KEYWORDS: PageRank, robots and spiders, "Beyond Google", vertical search engines, domain names, digirati, "pop-ups" and banners, "pay for click" sponsored advertising links, AIS Stress Bulletin, e-books, blogs, podcasts, RSS (Real Simple Syndication), AIS "Good Housekeeping Seal of Approval", *Fortune* magazine

The American Institute of Stress web site (www.stress.org) has the top ranking for Google's retrieval of information about *stress* and the same or a very high rating on other major search engines. We have enjoyed this enviable status for some time despite the fact that our site has been developed and maintained without any outside assistance. The individual entirely responsible for this has had no special training or experience in designing web sites and over 90 percent of her time is devoted to other duties. We have never accepted any advertising or received other funding to support this site and, other than the usual modest fee for a hosting service, there have been no additional expenditures. Friends who are fairly knowledgeable about how Internet searches are conducted have suggested that our success is due to the fact that our site may be perceived as providing more abundant and/or accurate information than any other with respect to searches containing the keyword *stress*.

Web surfers generally agree that Google is the most widely used search engine because of its **speed, comprehensiveness, and uncanny ability to ferret out precisely what you are looking for — if you know how to enter the right search terms.** To "Google" something has even become a verb in vernacular speech to signify you researched something very quickly and thoroughly that would formerly have taken too much time to get the same results. I was curious about what made Google better than Yahoo and other popular search engines and why AIS was superior to other sites that provide similar authoritative and updated information on stress. I also did not understand why our ratings for other search terms like *stress reduction* and *job stress* were deplorably low despite the fact that our site emphasized and devoted considerable discussion to these topics.

ALSO INCLUDED IN THIS ISSUE

- How Do Search Engines Find What You Want And Why Is Google The Best?
- Why And How We Will Dramatically Expand Our Efforts To Assist Consumers
- Why Are Stress And Particularly Job Stress Levels Skyrocketing?

How Do Search Engines Find What You Want And Why Is Google The Best?

Prior to Google, searches were conducted by using a few large servers and response times tended to slow down significantly as loads started to peak. Search engines also relied heavily on how often search terms appeared on the first page of a site and then subsequent pages, regardless of how

much information on them was actually provided. Google began by utilizing multiple linked PC's that avoided such delays and answered queries more quickly. Google also uses its proprietary PageRank program that examines the entire link structure of the web to determine which sites are the most important and then identifies pages that are most pertinent to the search terms or keywords you selected. Their ranking of web sites is determined by solving an equation of more than 500 million variables and 2 billion terms in a series of simultaneous calculations that only take a fraction of a second. **For example, I just did a search on stress that found The American Institute of Stress at the top of a list of about 1.3 billion sites in less than one tenth of a second.** While we may be at the top of a huge heap for *stress*, our position plummets as soon as another keyword is added even though we may have more and better information than sites in the top ten. Google has become so sophisticated that your choice of words and even their order can be crucial. We rank #4 for *hypertension and stress* searches but #5 for *stress and hypertension* even though these would seem to be identical. However, we would be well below 2000 or 3000 if you substituted *blood pressure* for *hypertension* on either of these searches.

The reason for this is that Google and other search engines gather information by sending out robots often called "spiders" to capture information on the first page of a web site. They then follows links from this to various pages of the site that direct them to other pages until all the site's material has been collected and collated. The time it takes to find the keywords of a search can influence your ranking so the home or first page's composition can be crucial. While it is desirable to include as many popular search terms as possible on the first page, this often clutters it up with explanatory text at the expense of attractive graphics and reduces its appeal. One compromise is to list popular keywords on this page as prominent links to other pages that focus on these important topics. Each of these pages should also contain the same keyword links to avoid having to repeatedly return to the home page to see what is available on your site. The content of any page of an internal link may not be as important as the choice of words you select for its headline or preferably headlines, since viewers are not likely to read a page of text unless there is something that immediately grabs their attention. Google knows that we currently have 18 such internal links, several links to other sites, that there are 24 sites similar to ours, 148 web pages that provide links to our site and 823 web pages that refer to either our site or The American Institute of Stress. These are only a few of the factors that can affect our ranking.

The name and domain of your site is also important. All site names have domains or extensions preceded by a period originally designed to signify the nature of its activities. The most common are .com (commercial), .org (non profit organization) and .net (network or technical activities) although people and companies can now select any of these regardless of what they do. The most popular by far is .com but the most desirable names for stress related information such as *stressreduction.com*, *stressrelief.com*, *jobstress.com* have already been snapped up as well as their synonyms. Some of these may be for sale, but at prices hundreds or thousands of times greater than their original cost, which could be as low as \$2.99/year. The same is true for other domains and the bidding for *www.stress.net* now starts at \$17,000.00. Not a bad profit for somebody who probably purchased this and numerous other names for a few dollars.

Why And How We Will Dramatically Expand Our Efforts To Assist Consumers

This brings us to the main purpose of this Newsletter, which is to find ways to drive consumers to our new and improved website. A 2002 study found that 80% of all U.S. adult Internet users or about 93 million people have searched for at least one of 16 major health topics online at some time in the past and stress related subjects are high on the list. Only e-mail and shopping for clothing, household appliances, electronic and other

goods surpassed health searches but that gap is rapidly narrowing. **Visits to medical websites jumped a whopping 23% from August 2004 to August 2005 and double-digit increases are projected for the next few years. Almost 40% of Americans who now surf the web are looking for health material, and information on stress reduction is becoming an increasingly popular destination.** However, consumers are overwhelmed and confused by the avalanche of advertisements accompanied by lavish testimonials they are inundated with, because they are unable to differentiate between the few products and services that are legitimate and likely to provide benefits and the multitude of others that are worthless or even deliberately dishonest. Regulatory bodies that certify drugs and medical devices as being effective and safe have little jurisdiction over these products or their claims, and there is little they can do unless there is proof that they are fraudulent or could be a significant health hazard.

The American Institute of Stress has functioned as an ombudsman to provide this type of service for more than two decades by separating the wheat from the chaff and exposing stress reduction scams. We have tried to be objective and fair in our assessments of this \$12 billion/year industry and evaluate items from the perspective of the manufacturer as well as the consumer. For example, let us assume that you have finally developed something that you firmly believe can significantly help to prevent or reduce stress. How do you know if you are correct and how could you convince people to purchase it? The first thing you might do is to have others test it and if the vast majority experience the same benefits you could offer their testimonials to provide support. However, consumers are now much more sophisticated and aware that there are thousands of devices, CD's, audio and videotapes, stress reduction techniques, programs, medications, nutritional supplements and other products making similar claims that are worthless or have only transient placebo effect benefits. It's not always possible to do double blind studies for some of these, and even if you could, such clinical trials are very costly and would not provide any benefit unless you had "protective" patents, which can also be expensive. In addition, if you really had a blockbuster, some large company could easily come up with something similar that violated your patent, knowing that they could afford the lengthy litigation of any challenge that would bankrupt most rightful owners. Thus, you might have something very worthwhile but not able to prove it and we need to recognize this.

On the other hand, some supplements like Cortislim, Relacore, Relora, Cortidrene, Cortizide and others that claim to reduce stress and help you lose weight by lowering levels of cortisol are clearly fraudulent. The Federal Trade Commission (FTC) sent warning letters to 25 manufacturers of such products citing false or deceptive claims and ordered that they be immediately discontinued. Nevertheless, these companies continue to rake in hundreds of millions of dollars annually and little can be done to stop them. The FTC did reach a \$4.5 million settlement with three of Cortislim's principals for falsely advertising that virtually all users would lose 10-50 lbs. quickly and easily, especially around the waist, and that these claims were supported by 15 years of scientific studies. However, only slight changes were made in the language of their infomercials and Cortislim sales are still booming. Relacore's commercial asks, "Why did your last diet fail? Stress increases Cortisol. Cortisol causes belly fat. Relacore reduces Cortisol. You need Relacore." The company claims that "independent clinical studies" show that Relacore reduces stress, which will reduce cortisol, that "the allegation that cortisol doesn't cause increased belly fat is ridiculous" and has countersued the agency because "their standards for scientific proof are unconstitutionally vague."

Herein lies the problem. As explained in prior Newsletters, there is abundant evidence that prolonged and marked elevations of cortisol can increase the deposition of deep abdominal fat. This is seen in patients on high doses of prednisone and similar steroids and in Cushing's disease, where cortisol levels are high because of increased secretion.

When steroid therapy is stopped, or the cause of excess cortisol secretion is corrected, abdominal obesity tends to disappear, confirming a causal connection. Further support comes from a study of Swedish men showing that those with the highest levels of chronic stress also had the highest cortisol levels and the greatest amount of deep-belly fat. However, in all these instances, steroid levels are significantly increased for long periods of time. There is no evidence that the transient and modest elevations resulting from the sporadic stresses of daily life could have a similar effect or that these products reduce either stress, cortisol or weight. It is very easy to confuse consumers by citing scientific studies from reputable peer reviewed publications that seemingly support these outlandish claims. Consumers need to know about these and similar scams and to be aware that they can rely on AIS to provide this type of information.

Several years ago I was offered a substantial sum by one of these manufacturers who supplied an in-house study allegedly showing that their product contained proprietary plant extracts that reduced stress, salivary cortisol concentrations and weight. They understood that I would not endorse or support their product and claims but merely wanted me to write a brief article to explain how stress can contribute to obesity. That was no problem since I had just co-authored a book on this subject and also discussed it at length in several Newsletters and they could have easily excerpted the material they needed and simply cited the source. It seemed obvious that what they really wanted was something they could post on their web site along with information on The American Institute of Stress and a link to our web site, thus implying our endorsement.

The AIS has made this type of information available through our monthly subscription Newsletter and website. However, these are targeted to health professionals and enlightened lay individuals and the information provided is often too technical or too lengthy to appeal to the general public. We must therefore simplify and shorten our presentations, which would not be difficult. The problem is how can we make consumers aware of what we have to offer by attracting them to our website? As you can appreciate from the above, there are myriad factors that enter into this equation and criteria can change, so that this will always be a work in progress. For example, Google may not reign supreme forever and other more specialized "vertical" engine search sites have already started to surface that threaten its dominance. A December 19 *Wall Street Journal* article entitled "Beyond Google" explained how these are much more efficient because they target specific categories like buying a house, booking travel, or finding a job. Google can find answers to such queries but you will be deluged by hundreds of thousands of irrelevant results. Every one that you eventually find useful will not necessarily be in the first two or three pages of your search and that's where most people look before giving up to try other keywords. There is no easy way to narrow responses down to retrieve what you need without missing something important. By targeting a single category, vertical search engines avoid this and instead of providing links to sites that might be pertinent, they actually provide the information you want that is contained on that site. If you are looking for a job you can filter this down not only to include type of work, salary requirements and geographical location, but also whether the employer made the *Working Mother* magazine list of the best 100 companies to work for. One vertical search engine that focuses on job searches, has an index of about 4.5 million constantly updated help-wanted listings culled from online classified and company web sites. **Its search for accounting jobs within 25 miles of Portland, Maine immediately turned up 74 listings in contrast to a conventional search engine that eventually retrieved only 6.**

Improving our ability to attract consumers will obviously require numerous changes to our website but where and how should we start? Digerati is a term used to refer to people very knowledgeable about web technologies that was formed by analogy with literati, which describes others with similar expertise in literature. (Digerati should not be

confused with geeks or nerds who tend to be more preoccupied with how computers work and hardware and software issues.) There are digerati who specialize in various aspects of web page design, which sites you should advertise on, whether you should offer "pop ups" and banners for sites that accept these or use "pay for click" links for sponsored advertising, as well as how all of these should be worded and where they should be positioned. There are also specialists who buy and sell domain names and appraise their market value. Expertise may be needed in so many different areas that we could not afford the coterie of digerati consultants that might be required. Nor is it likely that everyone would agree on certain decisions or work in concert, which would complicate as well as delay our ability to move forward. Fortunately, we very recently located a nearby leading website design firm that is not only very knowledgeable in all the above and other components that could drive traffic to our site but are also so enthusiastic about helping us achieve our goals that they significantly lowered their normal charges for the numerous services they will be providing. They have established a Project Center for us on their website to facilitate a rapid exchange of ideas since everyone involved is immediately alerted when there is a new posting and can make comments and suggestions. This allows us to be aware of changes everyone has agreed on and to periodically check our progress. From past experience with their other clients, we could potentially begin to see the fruits of our collaborative efforts after six months rather than the year or more projected by others we have contacted.

Among the improvements being considered for our site is a free AIS Stress Bulletin that provides information weekly or more frequently on the latest stress research, products and services as well as comments on their significance. It will be an attractive one or two page document that should be easily understood by anyone with a high school education. It is also possible that we will accept advertising or provide links to products we believe to be reputable, but not those annoying pop-ups. Such sponsored links would not represent an endorsement unless specifically stated and this will be carefully explained to prevent jeopardizing our reputation for integrity, accuracy and objectivity. In addition to our current packets of reprints that are available or can be created for various stress related subjects, we will start to offer e-books dealing with popular requests such as "Stress and Cancer", "Stress and Heart Attacks", "Stress and the Immune System", etc. Unlike the 15 to 25 pages of reprints that comprise most of our informational packets, these e-books will be much larger and provide a more thorough discussion of the topic as well as references. The advantage of downloadable e-books is that they are much less expensive than print versions and can be easily updated whenever new information should be included. We might also consider having blogs (short for weblog) to serve as a forum for participants on current topics of interest. Podcasting is another possibility that is growing in popularity as a convenient way to disseminate and retrieve information. Podcasts are audio files that can be downloaded to an iPod or similar device to listen to at one's leisure and ours could contain Bulletins, excerpts from Newsletters or updates on the latest developments in stress reduction and job stress. There is also RSS (Real Simple Syndication), a software code used to deliver news stories, blogs and other items via the web directly to your computer screen that is already available on several servers. Some predict that RSS will very soon change the way people access information and eventually surpass e-mail as the leading Internet application. As Bob Dylan wrote, "The Times They Are A-Changing" and we must learn how to change with them.

Why Are Stress And Particularly Job Stress Levels Skyrocketing?

It's increasingly difficult to go through the day without repeatedly hearing or reading something about stress and it is necessary to explain this explosion of interest. After all, stress has been around since Adam and Eve were in the Garden of Eden. Is it because there is more stress today than ever before? Is contemporary stress somehow different and more dangerous? Is our current heightened interest greater because scientific studies

have steadily shown how stress can contribute to numerous health problems like cardiovascular disease and disorders ranging from the common cold and recurrent herpes to AIDS and certain cancers that result from reduced immune system resistance? The answer to all of these questions is a resounding YES! As reported in previous Newsletters, **stress levels have progressively risen over the past few decades in children, teenagers, working mothers, senior citizens and other demographic groups because of increased but different psychosocial pressures.**

We have always had earthquakes, floods and other natural disasters but seldom the degree of devastation caused by the tsunamis and hurricanes of 2005. Many people are stressed out because of predictions that these problems will continue to increase in frequency and severity as a result of global warming. Superimposed on this is the resultant economic stress of soaring gasoline, heating fuel and food prices due to widespread destruction of oil rigs and crops. Similarly, although there is nothing new about epidemics of influenza and other infectious diseases, the widespread use of antibiotics in humans and animals has resulted in drug resistant and new strains of virulent organisms such as bird flu. Reassurances from scientists that any spread to man is unlikely and the President's proposal to invest \$7.1 billion to develop an effective avian flu vaccine that would not be available for at least three years has done little to allay fears. Shortages of vaccine for current flu strains have also raised stress levels in the elderly and others who are at increased risk for other reasons. The history of mankind is replete with examples of conflicts, wars and acts of terrorism. However, we have never had the degree of potential mass destruction that is now possible with atomic bombs and nuclear weapons. The events of 9/11 and the current reports of almost daily deaths due to suicide bombers and terrorists in Iraq, Israel and elsewhere are also unprecedented. And the public is understandably stressed by constant reminders from the media as well as government officials that this could easily happen here at any time. Add to this other novel stresses like mad cow disease, concerns about PCB and mercury levels in fish and other food contamination problems, as well as deaths due to popular prescription drugs previously approved as safe by the FDA. **Surveys show that up to 90 percent of visits to primary care physicians are for stress related complaints so it is no surprise that drugs designed to relieve them are always among the best sellers or that so many Americans are increasingly becoming significantly depressed.** We are hardly unique. The World Health organization recently estimated that **by 2020, clinical depression will outrank cancer and follow only heart disease as the 2nd leading cause of death and disability in the world.**

Studies also show that pressures at work are far and away the leading source of stress for adults both here and abroad. A 1992 United Nations report called job stress "the 20th century disease" and a few years later, the World Health Organization said it had become a "world wide epidemic". But the problem has skyrocketed since then. Numerous surveys confirm that American workers perceive that they are under much more stress now than ever before. Job stress provides a vivid illustration of why contemporary stresses are not only different but also much more pervasive. Hostile mergers and acquisitions, the collapse of giant corporations and established companies considered to be icons have caused mounting fears of unemployment or downgrading and the disappearance of pension funds, retirement benefits and hospital and health care coverage. Stress in the workplace is also different due to the increasing need to compete in a global market, the accelerated pace of communication, information overload and the deterioration of personal relationships. Cell phones and other telecommunication advances now make it possible to immediately contact anyone, at any time, wherever they are, including deep in the Sahara Desert, the North or South Pole, outer space and even the moon. Text messaging, fax machines, courier and overnight mail services also allow rapid receipt of written documents. We are inundated with information from the media and especially the Internet that we must often

process whether we need it or not. If there were some problem in Myanmar, Thailand, or other remote nation, our grandparents would likely not have learned about it for days nor would it have had the same impact as it might today. As noted, a Google search on a subject can result in over a billion hits and even if you read the first thousand, which could take more than a day, you would still wonder about what you missed.

Workers often sit in small cubicles separated only a few feet from colleagues with whom they communicate primarily through their computers rather than face to face. Phone rage is also rampant because of the inability to talk to a human being when attempting to get important information quickly. Very often there is merely a recording instructing you to hit various keys that bring up a menu and then a series of subsequent submenus that fail to provide what you want with no option to speak to a live person. In other instances, you are reassured that your call is very important and will be responded to in the order in which it was received, after which there may be a very lengthy wait that is not infrequently terminated by a busy signal or being disconnected. Commuting difficulties due to traffic jams have also contributed to road rage, another new and increasing source of stress.

In addition to its well documented adverse health effects, job stress is conservatively estimated to cost U.S. industry over \$300 billion annually due to direct medical expenses, health insurance costs, decreased productivity, increased absenteeism, employee turnover, Workers' Compensation and other litigation awards for job stress-related suits. In its draft of national health objectives for the year 2000, the Public Health Service placed an extremely high priority on stress reduction and recommended that companies with more than 50 employees should provide stress management services for their workers. This mandate was subsequently increased and as a result, there has been an explosion of interest in fulfilling this obligation since failure to do so significantly increases liability. Several years ago, under the auspices of NIOSH, we reviewed all the stress management training programs currently being offered either in-house or by outside vendors. Few provided any lasting benefits because they had not been targeted to the specific needs of the group being served or failed to establish the benchmarks necessary to demonstrate the efficacy of the intervention. Since then, properly designed programs have been demonstrated to significantly reduce job stress related illness, absenteeism and turnover and to improve productivity, bottom line benefits as well as quality of life in the workplace. Consumers need a resource where they can retrieve reliable information on stress reduction efforts and especially what works, what doesn't and why. It is important for them to recognize that The American Institute of Stress website provides this advice and we must find better methods to make them aware of this.

Some workplace benefits have been achieved by finding ways to give workers a greater sense of control over their job related activities. Employers are constantly seeking ways to significantly improve their stress reduction programs and we can help them by identifying corporations, institutions, unions and other groups that have been successful in achieving this. The same applies to companies and manufacturers who furnish lighting, furniture and other ergonomic enhancements that have been found to improve working conditions. We will also explain why these deserve our "Good Housekeeping Seal of Approval." By coincidence, I have been commissioned to do a 4-6 page Special Supplement for *Fortune* on job stress that will focus on ways to prevent and reduce its damaging health and fiscal effects. Companies with successful stress management programs will be profiled or discussed along with those that have implemented effective ergonomic improvements or have found other ways to reduce stress for their employees and/or customers. I will also include manufacturers who provide these products and services. From past experience, many of these companies contribute to underwriting such supplements since the attractive

glossy reprints with the *Fortune* cover for the issue in which it appears have proven to be extremely successful for promotional purposes. Reprints from an authoritative publication along with an attractive sponsor's ad on the back are not as apt to be perceived as being self-serving and biased as commercials or other print media advertisements and are much less expensive. Some of these companies might also be willing to support our job stress reduction activities since this would confirm their commitment to this goal. The timing of this special supplement for November or December of 2006 is particularly propitious because our revamped web site should be operational and productive by then. Its new benefits and services will be explained and promoted in this Special Supplement that reaches numerous top executives, policy makers and other important individuals among *Fortune's* more than one million readers worldwide.

Employers as well as workers and others are looking for accurate and candid information and guidance on stress-related products, services and issues and The American Institute of Stress is dedicated to filling this current void. Our expanded efforts to assist consumers and other interested parties will include interactions with educators to address significant deficiencies in our schools that have been shown to result in stress related illnesses and premature deaths decades later. We also hope to serve as a resource to elected officials to help promote legislation designed to reduce psychosocial stress. If we had the proper resources, we might eventually be able to offer our own "vertical" search engines for stress reduction and/or job stress since these can apparently be developed and maintained without a very large investment of time and money. This could be very useful for attracting viewers and advertisers, especially since our International Congresses and continued interactions with relevant researchers and organizations all over the world allow us to report on advances in other countries that are not readily available elsewhere. **There are likely to be many other opportunities for us to be of assistance to confused consumers. You can help us to achieve our goals by providing feedback and suggestions and supporting our efforts in other ways – so stay tuned for more about this!**

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