

THE VANCOUVER SUN

CAREERS

NO, NOT AN AGRONOMIST | **F2**THE CLASSIFIEDS | **F8**

Turning fitness into workplace ergonomics

The A-Z of careers: E is for ergonomist

Reporter Gillian Shaw helps you chart your course with *The Vancouver Sun's A-Z of careers, jobs and training*, a series to guide you through the ever-changing world of work. Today, how the science of ergonomics aims to save businesses billions in injury costs, and how you can enter this burgeoning field.



GILLIAN SHAW
VANCOUVER SUN

Judy Brooks has parlayed an expertise and enthusiasm for fitness into a career helping companies deal with ergonomic disasters that can lead to injuries and costly medical leaves.

It's a burgeoning business as aging baby boomers find their bodies failing to keep pace with the demands of work that have them sitting for hours at a computer or coping with physical labours that leave them with strains, sprains and worse.

It can be something as straightforward — and repetitive — as punching a cash register, as challenging as operating dangerous equipment on a high-speed

assembly line, or as high risk as fire-fighting.

However, the consequences, when physical well-being takes second place to deadlines or determination to work in spite of pain, can be devastating both to people and to a company's bottom line.

"Companies are driven to us by ergonomics or by their desire to provide their employees with information," said Brooks, who started her consulting company BodyLogic with partner Susan Rock 13 years ago. "The easiest client to get is the one that needs it, the one that says, 'Oh gawd, look at the money we've spent on injuries.'"

The amounts of money can be massive. Statistics vary, but it is in the billions of dollars North American-wide. In the U.S., private employers spend an estimated \$60 billion US annually on workers' compensation costs associated with injuries and illnesses among their employees. An estimated one-third of that is attributed to musculoskeletal disorders, which cover a range of illnesses and injuries linked to repetitive stress or sustained exertion on the body.

"People may think stress and exertion is only linked to heavy lifting, but stress can be standing for eight hours," said Brooks. "Jobs are shifting and we are doing much less manually. What we find is that people are sitting more and they have an accumulation of problems; increased sitting over a long period of time causes back pain and they can get into things like carpal tunnel.

"There will always be a business for us while there are people doing jobs for eight hours and more that are repetitive or require a lot from our body."

Demand is growing on two fronts,

according to Dan Robinson, Vancouver-based president-elect of the Association of Canadian Ergonomists who has a company, Robinson Ergonomics Inc.

"It has grown because of legislation," said Robinson, pointing to B.C. Workers' Compensation Board regulations on ergonomic requirements aimed at preventing musculoskeletal injuries. "It is also growing outside that.

"There is a phrase in our business — Good ergonomics is good economics — and as businesses are trying to be more efficient, to get an edge on their competition, they are realizing they need to make their products adapt to people rather than making people adapt to their products. It is about matching people and things."

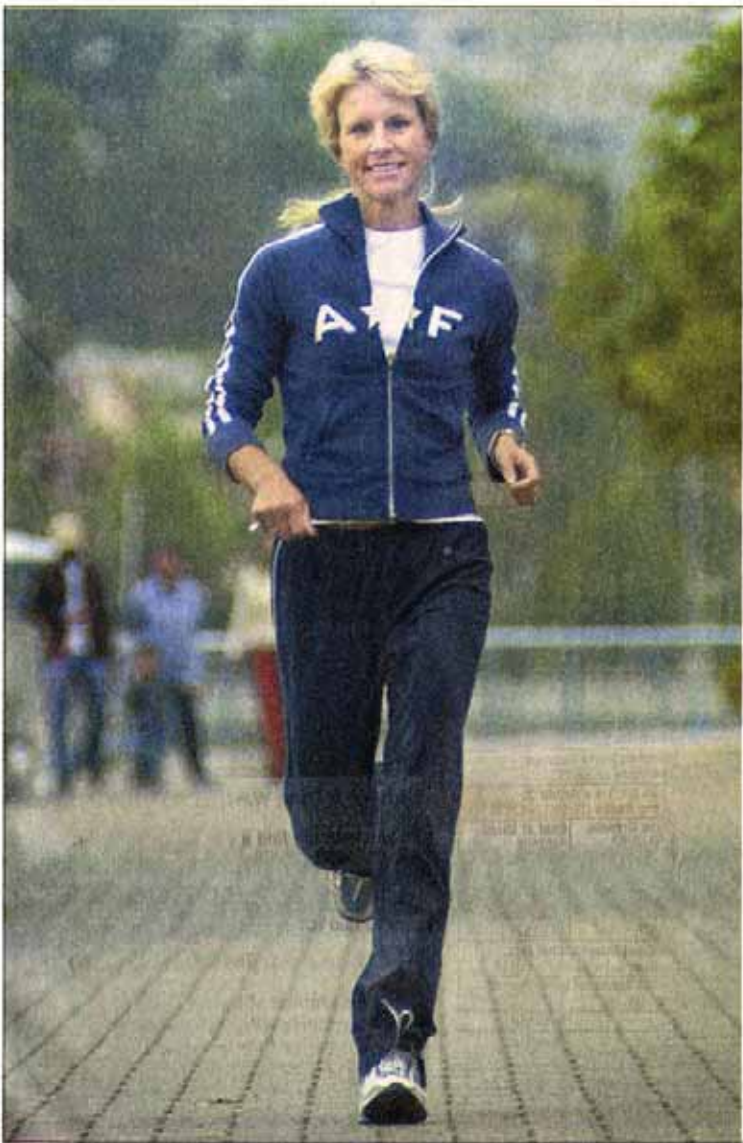
As a result, companies are enlisting the help of ergonomists in the design of products, opening more jobs in the field.

BodyLogic (www.backlogic.com) focuses on injury prevention, with clients all over North America. The company's ErgoLogic training program, a musculoskeletal injury-prevention program, was named one of the top 10 products for 2001 by *Human Resource Executive* editors.

Brooks' partner, Susan Rock, also had her start in the fitness industry, as a co-founder of Sweat Co., a Vancouver fitness facility.

"When we started, Judy and I looked at it as a wellness issue as opposed to a fitness issue," said Rock, who made the career shift to gain more work flexibility when she became a mother. "We thought we would be able to reach so many more people by going into their

See **KINESIOLOGY BACKGROUND F2**



GLENN BAGLO/VANCOUVER SUN

While fitness can be part of a healthy lifestyle, Judy Brooks knows correct ergonomics makes workplaces healthier for employees and companies alike.

Ergonomists go well beyond designing chairs

BY GILLIAN SHAW
VANCOUVER SUN

So you want to be an ergonomist? What is an ergonomist?

When Dan Robinson first started as an ergonomist in the late 1980s, people didn't know what he was talking about.

"You're a what? An economist? An agronomist?" they would ask.

Today most people know how to spell it, but they may not be clear on what an ergonomist does.

"Ergonomists go beyond designing chairs," said Robinson, president-elect of the Association of Canadian Ergonomists. "It's more complex than that."

As ACE explains it on its Web site: "Ergonomics is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design to optimize human well-being and over-all system performance. Ergonomics promotes a holistic approach in which considerations of physical, cognitive, social, organizational, environmental and other relevant factors are taken into account."

Simply put, that means ergonomists consider — from a range of views — how humans interact with things in the world around them — whether it is consumer products, the tools they use for work or the environments they work in.

Where to start:

Ergonomists come from wide and varied backgrounds. Robin-

Kinesiology background helps entry into field

From F1

environment as opposed to them coming into a fitness environment.

"That expanded when we got into the workplace and found what the issues were."

The issues are varied, depending on the work site. Brooks once found herself facing stress of a different kind when she was housed in a mobile trailer with bears sniffing around the door while she was in northern B.C. helping workers at an aluminum smelter. In another job, working with firefighters, Brooks discovered a chronic-injury problem arose not from the work itself but from the workers playing basketball on their break.

son has a PhD in kinesiology from Simon Fraser University, a discipline he says tends to look at the physical demands of work.

Other paths to becoming an ergonomist include:

- A degree in ergonomology, a fairly rarely offering in North America now, although there are some programs. See the International Ergonomics Association Web site below for information on how to find programs in Canada and internationally;

- A psychology background, looking at cognitive behaviour and human error. For example, a nuclear power-plant operator would want to design out the

"We show people how their bodies function," said Brooks. "We're trying to make this simpler."

Rock recently returned from nine days of training at a U.S. defence facility in Tennessee, at which many employees were suffering repetitive strain injuries. She saw almost 700 employees in two-hour sessions with 20-30 employees at a time.

The sessions covered some of the ways people suffer soft-tissue injuries, and helped employees consider their job tasks; how they do them; what they can do long term to lower their risk of RSI and exercises to help mitigate the risk of injury.

In the U.S. companies are even harder hit than in Canada by workplace injuries, with

employee medical premiums often part of the compensation package.

"The U.S. has led the way in that its health-care system is [arranged] differently," said Rock. "It definitely adds up, along with the direct costs in workers compensation claims, companies pay indirect costs in the U.S. through health care."

While Brooks and Rock started their business with a fitness background, the people they hire to work with them have academic backgrounds in ergonomics and kinesiology. They also work with an advisory board of health professionals.

Rock said even companies that have in-house fitness facilities can't rely on that to help their employees avoid muscu-

loskeletal injuries.

"Ten per cent of North America is involved in fitness. The reality is you can't rely on your fitness facility because 90 per cent of people won't get involved in fitness," she said.

Rock said education is crucial and some organizations are afraid to give employees information for fear of prompting a wave of related complaints. She said such lack of action costs in the long run.

"If you have 20 per cent of your workplace with strains and sprains and the only solution is they have to take drugs, you have a drug problem in your workplace," she said.

"People want to be healthy; they just don't know where to get the information."

likelihood of people making the wrong decisions;

- Design background, industrial design and even architecture;

- Engineering, including safety engineering and software engineers;

- Organizational design;

"The common thread is that what the ergonomist is doing is looking at factors that influence people and their interaction with their workplace," said Robinson.

How do you become certified as an ergonomist?

Within the past two years, a college for certification of professional ergonomists has been created in Canada that put

together competency and educational requirements. The certification process in Canada for ergonomists has fairly stringent requirements to ensure people have a broad enough background to understand the cognitive, physical and organizational aspects of the field. The U.S. has a similar program that requires candidates to pass a qualifying exam. Ergonomists in Canada are certified professionally. With U.S. qualifications, you become a board-certified professional ergonomist.

However, anyone can hang a shingle and call themselves an ergonomist. Check credentials

through the U.S. or Canadian certification organizations. However, as Robinson points out, certification is new to Canada and many qualified ergonomists have yet to apply to the college.

What are the jobs?

- Jobs in health and safety, both with the private and public sector, specializing in injury prevention and dealing with musculoskeletal disorders.

- In academia, research and teaching

- Consulting, to the private and public sector

- Design and manufacture of

products

How much do ergonomists make? Compensation varies depending on experience and the particular field. Robinson said ergonomists starting out with new degrees can expect to make from the low-\$30,000 to the mid-\$40,000 range. For someone who is well established, that can jump to a range of \$60,000 to \$120,000. Robinson said the range can depend on the level of responsibility and the potential benefit of the service to the employer or client.

Some sources:

- www.ace.ergonomist.ca — Web site of the Canadian Association of Ergonomists, which has about 650 members, including 80 in B.C. Includes job postings, information on certification and a listing of certified ergonomists, as well as other useful info.

- Canadian College for the Certification of Professional Ergonomists, the self-regulatory arm of the industry. Check the link on the ACE Web site for information and an application for certification.

- www.bcpe.org — International Ergonomics Association Web site. Link to ergonomics program directory for a listing of programs at universities and colleges around the world specializing in ergonomics.

- www.cdc.gov/niosh/topics/ergonomics — The U.S. federal agency, the National Institute for Occupational Health and Safety's site for ergonomics and musculoskeletal disorders.