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## Self-care: A growing wellness initiative

It has been postulated that self-care is the primary health resource in the health care system (1). Some authorities propose that: “Self-care should be seen as central to all clinical interventions and clinicians should be looking for new ways to involve people in their own health care” (2); others believe that: “Better health care will not depend on some new therapeutic standard, but on the level of willingness and competence to engage in self-care” (3). Chiropractors as primary contact physicians practice at the consumer health care system interface. By virtue of their location in the health care system, chiropractors are favourably positioned to influence perceptions of health and health risk. Radley suggests that “How individuals think about events and their life situation, as well as how they respond to difficulties and opportunities, are the key to understanding the influence of social conditions upon health status.” (4).

Good and Good believe the primary task of the clinician is to decode the patient’s complaints and reconceptualize the clinical encounter by adopting a meaning-centered approach (5). Sullivan maintains that “A shift in beliefs is therapeutic. Knowing is itself healing” (6). Semmes has suggested that the “The most important dimensions of illness behavior are the perceptions and interpretations of the patient.” (7). Patients’ perceptions do not always reflect reality. A survey of current smokers who use more than 40 cigarettes each day found just over one third believed they had a higher-than-average risk of myocardial infarction and only half perceived themselves at increased risk of cancer (8). Compared to non-smokers, there is a 120% increased mortality rate among smokers who smoke over 40 cigarettes a day (9), and health authorities causally link smoking to 21% of deaths from coronary artery disease (10).

Chiropractors are able to mod-

ify such perceptions and empower their patients to undertake responsible self-care.

Empowerment refers to the ability of the individual to gain understanding, make decisions and have personal control in improving their circumstances (11). It combines self-efficacy and competence and requires informed decision making. Positive outcome and efficacy expectations are a pre-requisite to successful self-care. Outcome expectancies are the belief that a given behavior will lead to a particular outcome; efficacy expectancies are the belief that one can successfully execute the behavior necessary to achieve the desired outcome. Patients who perceive that self-care will lead to valued health benefits and who feel adequately qualified to undertake self-care activities are more likely to embrace this initiative. Successful self-care transforms fatalistic acceptance of health problems into recognition of health as a life enriching resource. It is mediated at two distinct levels. On the one hand accurate understanding of current information is required, on the other motivation to transform health information into lifestyle behavior is needed. For health to serve as a personal resource, individuals need

to acquire the knowledge, skills and will to maintain health and achieve wellness.

A focus for patient self-care promotion of wellness uses a discrete set of skills, different to those required for diagnosing and managing structural changes and functional disorders. Its focus, although more often on providing healthy patients with the knowledge and skills to prevent disease, encompasses preventing progression of conditions already present. Promotion of wellness seeks to establish current behaviors and modify lifestyle patterns to promote health and avoid disease initiation or progression. It requires development of a system whereby patients become aware of their personal risks of disease and are made conscious of and motivated to conform to lifestyle options for reducing risk and promoting health (12). Self-care is practiced at a number of levels. It is practiced at all stages of the health-disease spectrum. The practitioner's focus at each level is however somewhat different.

### **Encouraging good habits**

At the extreme wellness side of the health-disease spectrum self-care focuses on the cultiva-

tion of good habits. Good habits that promote health range from dietary choices through exercise patterns to sleep behaviors. At this level of self-care a primary task is to enhance awareness of the benefits resulting from healthy lifestyle choices. Physical inactivity is regarded as an independent risk factor for cardiovascular disease, as well as for high blood pressure, high cholesterol levels and obesity (13). On the other hand, higher levels of physical activity are associated with a reduced incidence of coronary artery disease and hypertension in adults. Physical activity is emerging as a major modifiable factor for preventing and reducing the mortality from cardiovascular disease, diabetes and some cancers, as well as improving musculoskeletal and mental health (14). Epidemiological evidence suggests the principle focus for exercise health should be on physical activity and not physical fitness (15). A panel of experts concluded that every adult should accumulate 30 minutes or more of moderate-intensity physical activity, ie utilize 4-7kcal per minute, on most, preferably all, days of the week (16). Performing 30 minutes or more of moderate-intensity physical activity which expends about 840kj (200cal)

per day appears to achieve most of the psychological and physiological exercise related health benefits. Postulated health benefits of exercise include detecting, preventing, and managing prevalent disease states such as hyperlipidemia, hypertension, obesity, nicotine addiction, diabetes mellitus, affective disorders, cancer, osteoporosis, and age-related declines in muscular strength (17). Data from cross-sectional studies suggest that a moderate level of physical activity and a sufficient level of calcium intake, if maintained from childhood, can result in considerable long-term improvement in the mechanical competence of the skeleton (18). Moderate physical activity in older people with osteoporosis can decrease pain and improve fitness and overall quality of life (19). Exercise protects against bone loss and prevents fractures by decreasing the risk of falling through improving strength, flexibility, balance and reaction time (19-21). Daily activity that includes a complete active range of motion is optimal for cartilage viability (22). Evidence from 75 trials implies a strongly positive protective relationship between cardiovascular fitness and coronary heart disease (23). Regular exercise modifies

a number of the major modifiable risk factors for heart disease (24) including the blood lipid profile (25), systolic and diastolic blood pressure (24,26) and fibrinogen levels (27). Both aerobic exercise and weight training exercise also facilitate body fat loss, preserve lean body mass (28) and promote good mental health (29). Evidence has even been accumulating that suggests that physical activity may help reduce the risk of cancer (30,31). Counselling that enhances awareness of the benefits of exercise would seem highly compatible with developing good lifestyle behaviors.

### **Eliminating bad habits**

The next level of self-care is the elimination of bad habits. Bad habits are often the result of social learning. A number of behaviors traditionally regarded as socially acceptable may have deleterious health consequences. Drug use, particularly with respect to alcohol and tobacco, provides a prime example.

Counselling to cease tobacco use is recommended on a regular basis for all persons who use tobacco products (32). In 1989 the Surgeon General's Report attributed one in every

six American deaths to smoking (33). Smoking is implicated in 30% of all cancer deaths and in 87% of deaths attributed to lung cancer. Smoking is also causally linked to 21% of deaths from coronary artery disease, 18% of stroke deaths and 82% of deaths from chronic obstructive airways disease. About half of all regular cigarette smokers will ultimately die of a smoking related disease and 40% of people who smoke 20 or more cigarettes a day will die before the age of 65 years. In fact, at a global level it has been suggested that: "By 2020, tobacco is expected to kill more people than any single disease, surpassing even the HIV epidemic." (34).

Awareness of the repercussions of persisting with hazardous behavior needs to be accompanied by a strategy for change.

While individuals may be aware of the personal risks of smoking, a minimal intervention strategy that practitioners could employ is to make smokers aware that their habit endangers others. It has been estimated that a non-smoker sharing an office with a smoker could inhale the equivalent of 5 cigarettes a day in respiratory suspended particles. Although the health of other occupants in an impersonal office may not

greatly perturb a smoker, family health is of more immediate concern. Spousal smoking increases lung cancer risk by about 20 percent in never-smoking women (12). A non-smoker married to a smoker has a 30% greater risk of lung cancer than if married to a non-smoker. Sidestream smoke, the smoke inhaled by passive smokers, has higher concentrations of carbon monoxide, nicotine, carcinogens, and formaldehyde than the mainstream smoke inhaled by the smoker. Each of these compounds carries a particular health risk. Formaldehyde inhibits respiratory cilia. Carbon monoxide reduces red cell oxygenation. Carboxyhemoglobin levels of around 5% cause restlessness, irritability, impaired concentration, and delayed reaction time. The long-term effects of excessive exposure to carbon monoxide include structural changes in the myocardium and the arterial walls. Nicotine, in addition to causing addiction in smokers, causes release of catecholamines with cardiovascular consequences ranging from elevated blood triglyceride levels to tachycardia and platelet induced promotion of blood coagulation. Compounds in cigarette smoke may initiate and/or promote cancer. It may

furthermore be of interest to smokers that woman are thought to be more susceptible to tobacco carcinogens than men. The adjusted odds ratio for major lung cancer types is consistently higher for women than for men at every level of exposure to cigarette smoke (35). Passive smoking is also a possible contributing cause of recurrent sore eyes or headaches, premature ventricular contractions, asthma attacks and respiratory problems in infancy or early childhood (36). Exposure to tobacco smoke is wide spread. Analysis of serum cotinine levels indicates that 91.7% of the US population aged 4 years and older have detectable levels of cotinine, a metabolite of nicotine (37).

While health concerns may serve as motivation to quit, smokers are likely to require a more detailed approach to breaking the habit. In general a gradual tapering or abrupt stopping are the two major options (12). Useful approaches include keeping a smoker's diary, focusing on behavior change methods and, in cases of nicotine dependence, the use of nicotine replacement measures (12). Despite conclusive scientific evidence of the adverse outcomes of smoking, there is little agreement amongst

experts about which smoking reduction strategies are most efficient and offer greatest cost effectiveness (38). However, meta-analysis of smoking cessation endeavours, although finding no single strategy particularly more effective than any other, does rate individualized, face-to-face, ongoing support the single most successful antismoking intervention (39). Despite many primary practitioners being pessimistic about their ability to persuade patients to stop smoking (40), there is evidence that primary practitioners can promote abstinence (41,42). One study suggests that even 2 minutes of practitioner smoking cessation advice accompanied by an educational handout is beneficial in some 5% of cases (41). Certainly brief antismoking advice would seem an appropriate component of primary practice (43,44). Patients certainly believe that their chances of quitting are enhanced by practitioner involvement (45).

### **Personal health hazard assessment**

In addition to acquiring good habits and eliminating hazardous behaviors, self-care requires personal risk assessment. In practice this is a logical first step in self-care. By

ascertaining personal risk, a program that ranks and subsequently initially targets major health risks can be formulated. This approach is particularly important with respect to diseases with a long latent period such as cancer, atherosclerosis and osteoporosis. These conditions are prevalent in the general population. For example, 1 in 3 woman and 1 in 12 men will suffer an osteoporotic fracture in their lifetime (46). One in 5 white women over the age of 50 years has osteoporosis of the hip; one in 6 has osteoporosis of the lumbar spine and the lifetime fracture risk in this age group approaches 75% (47). There were an estimated 1.66 million hip fractures worldwide in 1990. According to epidemiological projections, this worldwide annual number will rise to 6.26 million by the year 2050 (48). In the 1990's the average annual cost of osteoporosis in the USA was over \$10 billion (49).

Given these statistics, it would seem judicious that those with a genetic predisposition to osteoporosis, as suggested by family history, should actively screen for and modify those risk factors that can delay the onset of disease. Although balance studies suggest that RDA levels for calcium are inadequate

(50), skeletal health requires, particularly in those most susceptible, a greater lifestyle change than an adequate calcium intake. While there is clear evidence of genetic modulation of bone phenotype parameters including bone density, peak bone mass, bone size, and bone turnover (51), there is also evidence that calcium supplementation may not alone be preventive. Bone mineral density and turnover in adults is related to the type of vitamin D receptor gene they possess. The association between the vitamin-D-receptor (VDR) gene alleles and rate of change of lumbar-spine bone mineral density over 18 months in 72 elderly subjects suggests that the effect of calcium intake on maintenance of bone mass could be related to VDR gene polymorphisms (52). Only 50% of people have the heterozygous vitamin D receptor gene that is associated, on calcium supplementation, with a slowed rate of bone density loss. Calcium intake to decrease the risk of osteoporosis may only be effective in half the population. Furthermore, although the predisposition to osteoporosis may be as much as 70% genetically determined (53), calcium deficiency is thought to only explain 15% of the population

variance in bone mass (54). Calcium supplementation does not alone adequately address the problem of osteoporosis. Other risk factors also need to be considered.

The relative risk of a fracture is increased around 5.5 times in smokers and/ or persons who have a BMI of less than 23 (55). Persons with impaired eyesight increase their risk of an osteoporotic fracture by more than 3 times and persons with postural instability double their risk. Persons who can't stand from a sitting position without using their arms are also at twice the risk (55). Regular weight bearing activity, not smoking and good balance or gait, in addition to sound nutrition, need to be encouraged.

Given the prevalence of osteoporosis it would seem appropriate that all primary practitioners, especially those with expertise in the care of the musculoskeletal system, should enable their young patients both to screen for any increased risk of osteoporosis and to undertake a self-care protocol to reduce any enhanced risk which may be detected (12). It would also seem reasonable that older patients should be made aware

**FIGURE 1.**  
**Self-screening for clinical evidence of osteoporosis (12).**

Loss of height

Hip fracture:

- low bone mineral density
- history of hip, radius of vertebral fracture in first degree relative
- personal history of fracture
- current cigarette smoking
- hip pain and inability of hip to bear weight
- shortened externally rotated leg

Spinal osteoporosis:

- pain less or pain intensified when not lying down
- restricted spinal movement, flexion reduced more than extension

Pronounced kyphosis

Loss of height

- an arm span-height difference of over 3 cm (especially if over 70 and less than 160cm tall)

Decreased exercise tolerance due to postural changes

Feeling bloated after small meals

Protruding abdomen

skin folds overlying the margin of the ribs/pelvis

of physical changes suggesting the presence of osteoporosis (12) (See Figure 1), and be provided with guidelines to reduce their risk of an osteoporotic fractures. Such guidelines may include recognising the need for professional intervention.

Elderly patients should be aware that the sudden onset of back pain that restricts movement, causes deformity and is aggravated by activity or straining and is relieved by rest requires immediate attention. Patients with a chronic history of backache should know to immediately seek professional advice if their low back pain starts to radiate and is accompanied by sensory or motor changes, or visceral dysfunction. In fact all patients should be made aware of the need to seek advice on detecting the presence of potentially ominous signs (12). See Figure 2.

### Self-screening

In addition to knowing when to seek professional advice when symptoms arouse concern, patients undertaking responsible self-care also undertake active self-screening. Self-screening by healthy patients is recommended for all adults (56-58). Women should be taught to perform breast self-examination and men to palpate for testicular lumps at monthly intervals. Regular oral and skin checks to detect persistent or changing lesions are also advocated. Handouts that guide patients in these procedures and alert them to untoward changes are available (12).

**FIGURE 2.**  
**Ominous signs requiring professional assistance.**

urination associated with burning, frequency or urgency

a lump or unexplained thickening is detected.

a sore which fails to heal

a mole or wart which undergoes a change

a persistent cough or hoarseness

persistent indigestion or difficulty in swallowing blood passed per rectum, coughed up or vomited. Women also need professional evaluation if their menstrual cycle becomes abnormal. sudden alteration in consciousness a headache which: persists without respite for more than 24 hours suddenly changes or progressively worsens

presents as a persistent localized pain is aggravated by: exertion, bending, stooping, coughing, sneezing, straining at stool, overnight by lying down i.e. is worst on waking is associated with: a progressive neurological deficit or unequal pupil size, a personality change or memory disturbance, convulsions, neck stiffness or fever

abdominal pain with any one of the following:

- a tender abdomen
- bloody diarrhoea
- vomiting red blood or passing a tarry stool
- a temperature of over 101.0F
- a history of previous abdominal surgery suspect you are pregnant

## Conclusion

Self-care is ultimately a personal prerogative.

Chiropractors can make patients aware of health promoting options, only patients can determine whether these options are worthy of their commitment. Chiropractors can make patients aware of their health risks and the benefits from changing risky behaviors, only patients can decide whether these risks are a source of concern. Patient education needs to become recognised as a valid form of chiropractic clinical care – by both patients and their chiropractors..

Promoting wellness in the chiropractic clinic does however need to be undertaken in the context of the time management constraints of a busy practice. Promotion of wellness through health education in the chiropractic clinic requires a format that is effective and efficient and permits a reasonable patient flow. The judicious use of patient handouts, pamphlets and other self-education measures in the context of a counselling clinical consultation provides a valid approach to wellness that can be tailored to meet these constraints.

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