

CANCER SMART

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“Brain Fog”: Addressing the Cognitive Changes Associated with Cancer

By Heather Palmer, PhD*

WHAT IS ‘BRAIN FOG’?

Patients, health care professionals and researchers are all starting to accept that cancer can cause ‘Brain Fog’, or ‘Chemo Brain’ as it is also sometimes called.

‘Brain Fog’ is a general term that refers to changes in cognitive (thinking) capacity. Although the experience can vary from person to person, ‘brain fog’ can include memory problems, difficulties concentrating, difficulties finding words, problems with motor skills, reduced ability to multi-task, and difficulties with problem-solving.

Brain Fog in cancer patients has received some research attention. However, variable incidence rates across studies make it difficult to identify who is most likely to be affected, why, and what the cause may be.

WHAT CAUSES ‘BRAIN FOG’?

The mechanisms for cognitive changes following cancer diagnosis and treatment are largely unknown.

One culprit may be the chemotherapy itself. Some studies have shown that patients receiving high dose chemotherapy are at greater risk for cognitive problems following treatment than patients receiving low dose chemotherapy. However, the role of



chemotherapy is unclear because cancer patients can experience ‘brain fog’ in the absence of any chemotherapy treatment. Research has also shown that there are significant differences in cognitive measures (such as tests of memory or problem-solving ability) before treatment between patients with stage 1-3 breast cancer, patients with Stage 0 breast cancer, and people who are healthy and do not have cancer. This would suggest that the cancer itself may play a role, or people’s response to the diagnosis, such as anxiety, depression, and heightened stress.

Other possible causes of cognitive disruption following cancer diagnosis and treatment may include:

- the impact of surgery and anesthesia
- genetic factors
- medications taken to address treatment side effects
- hormone therapy
- fatigue, distress

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"Did I take my pill today?" Thry'vors helps patients answer this and other common questions about thyroid cancer treatment

By Grace Wright, Thry'vors



www.thryvors.org



A particularly challenging aspect of thyroid cancer treatment is the active and self-directed role that patients must take to adhere to regimens and protocols during and after treatment.

For the past four years, Thry'vors has dedicated a large portion of its efforts to developing resources that make it easier for thyroid cancer patients to successfully follow the strict low iodine diet (LID).

The importance of complying with a LID

is significant as non-compliance can affect the accuracy of scanning procedures and possibly reduce the effectiveness of treatment. To support patients with this challenge, Thry'vors developed a successful, medically approved Low Iodine Diet with a food guide, shopping tips and menu planner. Copies of this diet can be obtained free of charge at www.thryvors.org, or by calling 416.487.8267.

Thry'vors has since responded to a second significant compliance challenge regarding the daily regimen of thyroid hormone replacement that many patients face after having undergone a partial or full removal of the thyroid.

It is important to ensure a steady supply of hormone replacement in order to minimize the risk of recurrence, which is currently about 30%.¹ In a recent survey, four out of five thyroid cancer patients reported that they sometimes forget to take their thyroid replacement medication, and that forgetting to take their medication is a source of concern.

In response, Thry'vors now has available a *Pill Reminder Disc*, a slim, circular 14-day dispenser that indicates the day of the week for each pill. It is a helpful way to remind patients to take, and track, their medication, and can be especially helpful for those who have alternating or varying dosages over the course of a week. The disc is accompanied by a pamphlet providing important tips on how to take thyroid hormone replacement to ensure its maximum absorption and effectiveness.

For more information about the Thry'vors 4-T4 Pill Reminder Disc and how to get it, please visit www.thryvors.org. ■

For a complete reference list please visit www.wellspring.ca/centres/odette-house-toronto/ways-wellspring-can-help/publications/cancersmart.html

Reducing Alcohol

By Norman Giesbrecht, Ph

Alcohol Facts:

- The World Health Organization identifies alcohol as a risk factor for cancers of the upper digestive tract, liver and breast. (WHO, 2002) It is also a risk factor in colorectal cancer, particularly for men. (Canadian Cancer Society)
- Alcohol contributed to an estimated **466,000** cancer related deaths worldwide in 2002 (Rehm et al., 2006)
- **78%** of Canadians drink alcohol
- **23%** of these people are above the Low Risk Drinking Guidelines developed by the Centre for Addiction and Mental Health
- Cancer risk increases with the amount of alcohol consumed (Canadian Cancer Society)

ing the Risk of -related Cancer

D, Centre for Addiction & Mental Health

In the public and media it is likely that alcohol consumption is primarily associated with drinking and driving, alcohol dependence or addiction and health benefits from drinking small amounts regularly. However, what is likely not well known is that alcohol consumption has been identified as a contributing cause to over 60 diseases and conditions.¹ These include a wide range of chronic diseases, and intentional and unintentional trauma. In Canada it has been estimated that health, law enforcement and work-place costs associated with alcohol were \$14 billion, based on 2002 data.²

Alcohol consumption has been identified as a contributing cause to over 60 diseases and conditions.¹

Alcohol is a contributing cause to several carcinogens. These include several cancers of the digestive tract, colorectal cancers and breast cancer.³ Evidence of alcohol as a carcinogen for the digestive track goes back some decades.⁴ However, more recently alcohol has been identified as contributing to breast cancer and colorectal cancer. In February 2007 a working group affiliated with the International Agency for Research on Cancer⁵, which is linked with the World Health Organization, concluded that alcohol is a contributing cause for these two types of cancer.

It might be assumed that the contribution of alcohol to risk of cancer is essentially because some drinkers are also smokers. However, this is not the full story. A study by Zaka and colleagues compared relative risk of aerodigest cancer for several groups: those that were non-smokers but with different levels of daily

alcohol consumption, those who were non-drinkers but with different levels of daily smoking, and those who were both drinkers and smokers.⁶ The researchers found that among the non-smokers the risk of cancer increased with the amount of alcohol consumed. Similarly, among non-drinkers the risk of cancer increased with amount smoked. For those that were both heavy drinkers and heavy smokers, the relative risk was between 13 to 36 times greater compared with those who neither smoked nor consumed alcohol.

The majority of Canadians drink. For example, about 80% of a representative sample of Canadians aged 15 older indicated that they had consumed alcohol in the past 12 months.⁷ Is there a perfectly safe level of alcohol consumption?

The preferred answer may be a simple and straightforward one. However the evidence points to a more nuanced response. There are many situations where it is neither appropriate to drink including those where health and safety risk may be increased for the individual or for those in his or her care.⁸ There are some health benefits associated with drinking small amounts, for example, protection against certain cardiovascular diseases. This is at about a drink or two every other day, and is primarily relevant for those at middle age or older.⁹ This has been described as a U-shaped curve: with slightly higher risk for cardiovascular diseases for abstainers, health benefits for moderate drinkers, and then substantially elevated risk at higher drinking levels.

Risk increases with the amount of alcohol consumed.

However, a U-shaped curve does not describe the association between alcohol and risk of cancer. Risk increases with the amount of alcohol consumed. The lower levels at which relative risk is moderately elevated is at about 1-2 drinks a day and increases with higher average consumption.¹⁰ This tends to apply to all alcoholic beverages. This was the general conclusion by Sir Michael Marmot and his group in their analysis of alcohol and cancer in a report released late in 2007.¹¹

In order to reduce the risk of alcohol-related problems in Canadian society, and control consequences, it is imperative to have both population-level and individual responses. The population level response should include a combination of national and provincial/territorial alcohol control strategies that focus on controlling overall rising consumption levels and high risk drinking, and include the use price measures, density of outlet restrictions and better controls on extensive marketing and promotion of alcohol. This response will require the active participation of non-governmental organizations and chronic disease prevention associations in order to enhance its impact. Recent national and provincial level initiatives provide a strong resource for implementing effective population-level interventions.^{12, 13, 14}

The risk of alcohol-related cancer can be reduced by a combination of changes in personal practices and seeking advice from a health care professional.

At the individual level, the risk of alcohol-related cancer can be reduced by a combination of changes in personal practices and seeking advice from a health care professional. For example, there are various web sites where one can keep track of drinking and get tips for reducing overall consumption. One approach that is especially relevant is that identified, as a brief intervention.¹⁵ There are various versions of this basic approach. A common one is that the health professional will ask the patient about his or her alcohol intake – number of standard drinks, frequency of drinking and drinking situations. If the drinking level is considered low risk, the patient will be encouraged to continue to monitor their use of alcohol and not increase it. If it is considered elevated, then the health professional will provide information about the risks associated with drinking at that level, offer guidance for cutting back alcohol consumption, and encourage the patient to regularly

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“Brain Fog”: Addressing the Cognitive Changes Associated with Cancer

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Long-term cognitive changes after treatment is completed seem to persist in only a subset (17%-34%) of cancer survivors. However, studies that look at ‘brain fog’ over a long period of time have yet to be conducted.

Although cancer-related brain fog is now generally accepted as a common occurrence, little is known about the causes and who is most likely to be affected.

WHAT CAN BE DONE TO DEAL WITH ‘BRAIN FOG’?

Cognitive cancer research is in its infancy. However, despite the small number of studies conducted and their methodological limitations (such as small sample sizes, absence of appropriate groups for comparison and inadequate assessment tools), the accounts from cancer survivors, healthcare professionals and researchers confirm that ‘brain fog’ is a valid and common experience for cancer patients. Despite the lack of evidence pointing to a specific cause, considerable effort has been placed on rehabilitation for these changes, with rehabilitation in pediatric and adolescent cancer patients leading the way.

But what is available for adult cancer survivors? Until the cause of cancer-related brain fog is understood better and medications or other types of intervention are available to help prevent or treat it,

cognitive enhancement appears to be the answer.

Formally referred to as “neuro-cognitive rehabilitation”, cognitive enhancement programs teach people how to improve their thinking capacity, such as improving memory and other aspects of brain functioning such as planning, organizing and word finding. Unlike the many baby boomer inspired brain fitness computer-based programs newly on the market, cognitive enhancement programs for cancer patients seem better suited for face-to-face seminars that teach specific strategies.

Programs that are evidence-based (stemming from scientific research), emphasize individual style, teach how to apply techniques into daily life, and are multi-dimensional (teach a variety of techniques) are most likely to be effective and have a positive impact on the lives of individuals affected.

Multidimensional cognitive rehabilitation programs tend to take a more holistic approach to cognitive enhancement by focusing on a balanced interplay between improving thinking ability and improving psychological well-being. Under the leadership of someone trained in the area of brain-behavior relationships, cognitive rehabilitation programs teach individuals a variety of techniques and strategies to help them maximize their personal cognitive capacity and regain functions they feel

have been affected. This is accomplished by way of education, self-awareness as well as trial-and-error. The goal is to return to previous levels of cognitive function (or better), recognizing that different people may need different methods to do so.

Programs can also help cancer patients realize that the capacity to learn and remember has not been lost but, rather, compromised. Through proper training, individuals can reclaim skills they believed to be lost for good.

One example of such a program is “Chemo Brain”, a program offered by Maximum Capacity, and available at a variety of cancer support organizations, including Wellspring. For more information on this program, please contact Maximum Capacity at 416 219 1586 or Wellspring at 416 961 1928 or www.wellspring.ca. ■

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monitor their alcohol consumption and efforts to reduce their overall intake. Ideally, during a follow-up visit the health professional will see how the patient is doing in reducing their alcohol consumption.

There are many contributing causes to cancer, and they vary greatly by type of cancer. Alcohol is one of the risk factors for cancer that is not widely known. Increased awareness is an important first step to implementing effective population level prevention strategies and individual level interventions. ■

For the complete reference list please visit www.wellspring.ca/centres/odette-house-toronto/ways-wellspring-can-help/publications/cancersmart.html



Sexuality, Intimacy, and Sexual Function with Women After Cancer: Commonly asked Questions and Answers

By Lisa Skelding MSW, RSW and reviewed by John Lamont, MD, Gyn.

WHAT DO YOU MEAN BY THE WORDS 'SEXUALITY' AND 'INTIMACY'?

Sexuality refers to the ways in which we define ourselves as sexual beings, how we experience and express ourselves as a woman, or a man, and how others view us. It is a huge part of being human, and feeling alive. It's not just about the act of sexual intercourse. The word intimacy is often equated with being sexual but many of us have intimate relationships with people that do not include sexual involvement. Being intimate is about being vulnerable and sharing very private thoughts, feelings, hopes and dreams. When we feel safe enough to share and interact on that level, in an emotionally appropriate way with another human being, we create an environment that promotes intimacy. ■

WHAT HAPPENED TO MY SEXUAL DESIRE SINCE BEING DIAGNOSED WITH CANCER?

Some cancer treatments can trigger a 'medical menopause'. As a result you may end up feeling a lack of sexual desire, and symptoms of hot flashes, fatigue and a dry vagina. Any apprehension you might have about sex can interrupt feelings of excitement and desire. Lack of desire and arousal can produce, or be the result of, painful intercourse. That's why it's very important for partners to TALK about any fears, concerns, or distracting thoughts that may have an impact on their arousal. When couples are able to redefine their sexuality, figure out how to enjoy sex in a different way and deepen intimacy they often end up saying "My love life has actually improved since my battle with cancer". Imagine that! ■

DO YOU HAVE ANY SUGGESTIONS TO HELP WITH THE PAINFUL INTERCOURSE?

Yes, LUBRICATE, LUBRICATE, LUBRICATE! Pelvic surgery, radiation therapy, other cancer treatments, and aging affects a woman's hormone production. The loss of estrogen, or radiation treatment can create a short, narrow, tight and dry vagina. Extra moisture, lubrication and longer stimulation will be needed to create arousal. This will help the vagina to expand to its fullest length and width, to become slippery, thereby, helping to make intercourse more comfortable. Using a lot of lubricant around and inside your vagina can help you to succeed at intercourse and help you to be less anxious during intimacy. It's very important to share with your partner what positions and touches cause you pain and what feels pleasurable. This may require some experimentation. Don't forget your sense of humour!

It is unfortunate that in our society both the oncology team and the patient may share a hesitation to discuss sexual function openly so that routine history taking and treatment for sexual concerns may be shunted to the bottom of the priority list for care. As a result, women do not talk about these "embarrassing secrets" and suffer in silence. It's a growing problem as more women are diagnosed with cancer. We all need to work together to break this silence because sexuality, intimacy and sexual function are really important quality of life issues. These issues are affected by the psychological response to the diagnosis of cancer, by the physical side effects of the cancer treatments, by the social significance of the disease, and by the quality of the relationship. If you are having difficulty with your sexual function after cancer treatment talk to your oncologist, OB/GYN, doctor, nurse or therapist until you get the help that you need. The sooner you seek help, the sooner you may return to a healthy quality of sexual functioning. ■

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If you have questions regarding this article or any other article contained in CancerSmart, please email us at cancersmart@wellspring.ca. We will do our best to respond.

TELL US WHAT YOU THINK...

In an effort to provide current, evidenced based information we will be evaluating the **CANCERSMART** publication in the upcoming months. Included in this edition is a link to an online questionnaire that readers can visit to give their feedback.

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