

“DOES YOGA  
THERAPY AID IN  
THE PHYSICAL  
AND EMOTIONAL  
RECOVERY OF  
CANCER  
PATIENTS?”

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For KHYF Yoga Therapy Course  
2012 – 2015 Batch

A Case Study Presentation  
Completed July 2016  
(Edited March 2017)



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## CHAPTER 1

### INTRODUCTION

#### *“Does Yoga Therapy aid in physical and emotional recovery of Cancer Patients”*

Firstly, I would like to introduce how I came to choose this subject.

After having taught a group class for Cancer patients over five years, who have undergone chemotherapy, radiotherapy and/or surgery, I felt I had an affinity with this subject due to this experience. It has allowed me to observe the effects of Yoga on patients. Over time I realised that what we were doing in that class is assisting with patients *Recovery* process. So this word *recovery* became my key word and focus of the project.

During this time of teaching the Cancer Class I have observed that there are many Cancer Survivors and Thrivers. However, I have also observed the re-current symptoms (*heyam, sutra 2-16\**) for those who have taken chemotherapy/radiotherapy that there is often lung scarring, but this can also be dependent on where the cancer site is located in the body. If it is in the upper body (*samana/udana/prana= vayus<*) areas it will generally affect the lungs. If it is the lower body (*apana=vayus<*) it seems to affect the legs and feet. So people experience shortness of breath and it can be quite distressing for them, especially if these things are not explained to patients by surgeons' or specialists of allopathic medicine prior to treatment.

Students in this class regularly reported to me that they are feeling so much better due to gentle yoga practice. So many varied ailments occur due to chemotherapy, radiotherapy, surgery and medication. Sometimes all treatments are used in succession over a period of time. People feel they just begin to recover and then it is time for another round of treatment. They are on a continual roller coaster ride during treatment.

While there is no cure for cancer and yoga does not offer or suggest this, it is an excellent tool in the aid of recovery (Article 1 #) for cancer patients. Lung capacity increases, breath lengthens, sleep improves (Article 3#), energy levels increase (Article 5#), anxiety levels reduce and an acceptance of the illness and acceptance of ones own body.

Women who have had breast cancer (Article 2#) with mastectomy or lumpectomy or lymphatic cancer and having lymph nodes removed, need to regain arm movement after surgery.

I have observed one particular breast cancer yoga student with full mastectomy recover full arm movement over a six week period of simple yoga practice. This student was dedicated and also practiced at home with simple arm movements and breath. Needless to say she was very impressed with the positive effects of yoga.

\* *Patanjali's Yoga Sutras*

< from KHYF Study Modules 3 & 4

#Chapter 2 –Literature Review

Acceptance of disease by a patient is also a vital part of healing and recovering. Unfortunately, cancer creates that instant thought that “oh no, how long do I have to live? Is it terminal?” The fact is that we are all terminal. None of us are going to escape death, but to be told you have a life threatening illness the reality of death comes even closer. Humans hang on to life so dearly, living like there is no death and thinking they will live and stay young forever. Cancer patients are forced to think about death, whether they like it or not. Yoga can also be helpful in this area in teaching people to get in touch with their true selves and to accept what is happening without anger. Anger will only exasperate the symptoms.

Yoga Therapy can be of enormous help in assisting people with cancer for both physical and emotional stresses experienced through this difficult time, in particular post treatment.

The vital aspect of Yoga Therapy is that it is self-empowering, it “helps people to help themselves” (Article 4#). This in turn makes cancer patients feel empowered. This can help to counterbalance the feeling of “loss of control”, which often occurs once the patient is in the hands of the medical profession. They feel like they become another statistic and the “human factor” seems to disappear.

Any illness, when looked at holistically as it is in Yoga Therapy, believes that there is possibly some kind of deep hurt or pain from a past experience and behavioural patterns (*samskaras – sutras 1-18; 2-15; 3-18\**) develop which can cause disturbances in the body and create illness. Physical pain in the body can be connected to emotional pain. However, the emotional pain, hurt and suffering (*duhkha, sutra's 1-31 and 33, 2-5, 8 and 34\**) comes first and then the physical manifestation can follow in some form of pain or illness. Of course, this is not always the case as illness can be genetic, reactive, viral or bacterial. Some cancers are reactive to pollutants and chemicals while others seem to occur with no apparent obvious trigger. If there is no obvious trigger this type of cancer can be connected to deep emotional hurts.

In order to cope with pain and hurt people often develop a mask (*kavaca*). Through Yoga Therapy hopefully we can get behind the mask to the core of ones emotional issues. This is not always possible but if this can be achieved it can be beneficial in the emotional healing process.

Dependant on what part of the body the pain is located the therapist can look at the closest chakra (*cakra*) to that area and examine the emotions connected to this chakra which may be relevant to the care-seeker.

\*Patanjali's Yoga Sutra's

<from KHYF Study Modules 3 & 4

#Chapter 2 – Literature Review

By administering the various Yoga Therapy tools into a personal daily practice suited to the care-seeker deep emotional issues can be relieved and dealt with. This experience can be uncomfortable and can stir up old painful memories and make a person relive them, but it is all part of the process and result in a positive outcome.

In the past there have been no post cancer treatments but now with organizations such as the Cancer Council WA and Solaris Care, there is an increasing awareness for the need for post recovery treatments. Many funded activities are now available for cancer patients, such as support groups, water aerobics, gentle gym, yoga and meditation. Through this research study I hope to discover more positive reasons why Yoga Therapy should be offered and available as a recovery modality for cancer patients.

This research is open to any type of cancer. The study is about Recovery therefore patients preferably need to be post chemotherapy, radiotherapy or surgery. However this will not always be possible as some cancer patients need to have ongoing maintenance chemo therapy, or they may have a secondary cancer occur. The range of cancer types in this research project will vary from breast cancer, lung cancer, ovarian cancer, adrenal cancer, bowel cancer, brain cancer and stomach cancer.

From a Yoga Therapy perspective many yogic tools (*upayam, sutra 2-26\**), such as gentle exercise (*asana, sutra 2-29\**) breathing exercises (*pranayama, sutra 2-29\**), relaxation (*pratyahara, sutra 2-29\**), chanting and repetition of sacred sounds (*mantra, sutra 4-1\**) visualisation (*bhavana, sutra 4-25\**), meditation (*dhyana, sutra 2-29\**) can assist in recovery for Cancer patients post treatment.

Patanjali's Yoga Sutra 2-29 is mentioned several times as this is the sutra which outlines the 8 Limbs of Yoga or Astanga (*asta = 8; anga – limb*). *Astanga* or 8 Limbs of Yoga is applicable to all who practice yoga. It is a guide for living a healthy long life together with conscious morals and ethics. It is the core teaching from which many modern day yoga types stem, although this is not commonly realised in the West.

*\*Patanjali's Yoga Sutras*

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## CHAPTER 2

### LITERATURE REVIEW

This chapter is to provide a summary of the Research Studies literature that I have reviewed for this project and what conclusions they came to. Articles are chronologically presented by year of publication. From this information I have also been able to establish the differences between my study and other studies.

Both Qualitative and Quantitative Research has been reviewed due to a limited number of Qualitative Research Studies.

#### ARTICLE No. 1

**STUDY TITLE:** *A qualitative study of self-perceived effects of Mindfulness-based Stress Reduction (MBSR) in a psychosocial oncology setting.*

**AUTHORS:** Michael Mackenzie, University of Delaware, USA; Linda Carlson, The University of Calgary, USA; Micael Speca, Alberta Health Services, USA

**YEAR OF PUBLICATION:** 2006 [www.researchgate.net/publications](http://www.researchgate.net/publications)

### STUDY REVIEW

#### ARTICLE SUMMARY:

The authors suggest that, "Quantitative research has shown Mindfulness-based Stress Reduction (MBSR) programmes can reduce mood disturbance, improve quality of life, and decrease stress symptoms of cancer patients. However, the range of subjective effects experienced by the programme participants has not been clearly described. Nine cancer patients who had participated in an 8-week MBSR programme through the Tom Baker Cancer Centre's Department of Psychosocial Resources, and who continued to attend weekly prop-in MBSR sessions were interviewed for this study. Qualitative research was conducted using grounded theory analysis. Data from semi-structured interviews and a focus group were analysed using QSR N6 software to identify themes concerning the effects patients experienced by adding meditation and yoga to their lives. Five major themes emerged from the data: (1) opening to change; (2) self-control; (3) shared experience; (4) personal growth; (5) spirituality. This information was used to develop specific theory concerning mechanisms whereby MBSR effects change for cancer patients. These understandings may be used to refine and further develop MBSR programmes to better assist patients during cancer diagnosis, treatment and recovery. "

**ARTICLE No. 2**

**STUDY TITLE:** *Restorative Yoga for Women with Ovarian or Breast Findings from a Pilot Study* Cancer:

**AUTHORS:** *Suzanne C. Danhauer, Janet A. Tooze, Cassie R. Campbell, Richard P. McQuellon and Brigitte E. Miller; Wake Forest University School of Medicine, Winston Salem, NC; Deborah F Farmer, Winston Salem State University, Winston Salem, NC; Rolland Barrett, Derrrick L. Davis Forsyth Regional Cancer Centre, Winston Salem, NC.*

**YEAR OF PUBLICATION:** *Journal of the Society for integrative oncology, Volume 6, No.2, 2008*

**ARTICLE SUMMARY:**

Yoga has demonstrated benefit in healthy individuals and those with various health conditions. There are, however, few systematic studies to support the development of yoga interventions for cancer patients. Restorative yoga (RY) is a gentle type of yoga that has been described as “active relaxation”. The specific aims of this pilot study were to determine the feasibility of implementing and RY intervention as a supportive therapy for women diagnosed with ovarian or breast cancer and the measure changes in self-reported fatigue, psychological distress and well-being, and quality of life. Fifty one women with ovarian (37) or breast cancer (14) with a mean age of 58.9 years enrolled in this study; the majority were actively undergoing cancer treatment at the time of enrolment. All study participants participated in 10 weekly 75 minute TY classes that combined physical postures, breathing, and deep relaxation. Study participants completed questionnaires at baseline, immediately post intervention, and two months post intervention. Significant improvements were seen for depression, negative affect, state anxiety, mental health, and overall quality of life. Fatigue decreased between baseline and post intervention follow-up. Health related quality of life improved between baseline and the two month follow-up. Qualitative feedback from participants was predominantly positive; relaxation and shared group experience were two common themes.

**Key Words:** anxiety, cancer, depression, mind-body medicine, stress, yoga.

**ARTICLE 3**

**STUDY TITLE:** *Yoga breathing for cancer chemotherapy-associated symptoms and quality of life: results of a pilot randomised controlled trial*

**AUTHORS:** *A Chruva, C. Miaskowski, D Abrams, M Acree, B Cooper, S Goodman, FM Hecht*

**YEAR OF PUBLICATION:** *May 2012 PubMed*

**RESULTS:** class attendance was nearly 100% in both groups. Sixteen (16) participants were included in the final intent-to-treat analyses. The repeated-measures analyses demonstrated that any increase in pranayama dose, with dose measured in the number of hours practice in class or at home, resulted in improved symptom and quality of life scores. Several of these associations, sleep disturbance, anxiety and mental quality of life reached or approached statistical significance.

**CONCLUSION:** Yoga breathing was feasible intervention among patients with cancer receiving chemotherapy. Pranayama may improve sleep disturbance, anxiety, and mental quality of life. A dose response relationship was found between pranayama use and improvements in chemotherapy associated symptoms and quality of life. These findings need to be confirmed in a larger study.

#### **ARTICLE 4:**

**STUDY TITLE:** *Yoga in adult cancer: an exploratory, qualitative analysis of the patient experience*

**AUTHORS:** *Marcy McCall, Kellogg College, University of Oxford, UK; Sally Thorne, School of Nursing, University of British Columbia; Alison Ward and Carl Heneghan, Department of Primary Health Care Services, University of Oxford, UK.*

**YEAR OF PUBLICATION:** July 2015

#### **ARTICLE SUMMARY:**

**Results:** Four themes emerged from the data to address our research objectives; patients perceived benefits of yoga, reasons and motivations for practising yoga, hurdles and barriers to practising yoga, and advice for effective yoga program delivery in adult cancer. Several patients reported yoga reduced stress and other symptoms associated with cancer treatment. Thematic analysis found the social dimension of the group yoga was important, as well as yoga's ability to encourage personal empowerment and awareness of physical body and self. Barriers to yoga adherence from the patient perspective included lack of time, scheduling conflicts and worries about financial burden.

**Conclusion:** This small, diverse sample of patients reported positive experiences and no adverse effects following yoga practice for management of cancer and its symptoms. Results of this qualitative study identified patient reported preferences, barriers and characteristics of yoga intervention optimal during adult cancer treatment.

**Keywords:** Yoga, Cancer, Patient, Qualitative, interview, interpretive description.



**ARTICLE No 5**

**STUDY TITLE:** *Randomised pilot trial of yoga versus strengthening exercises in breast cancer survivors with cancer-related fatigue.*

**AUTHORS:** *DLStan, KA Croghan, IT Croghan, SM Jenkins, SJ Sutherland, AL Cheville, S Pruthi*

**YEAR OF PUBLICATION:** *Support Care Cancer April 2016 PubMed*

**ARTICLE SUMMARY:**

**Results:** We invited 401 women to participate in the study; 78 responded, and we enrolled 34. Both groups had significant within-group improvement in multiple domains of the fatigue and quality of life scores from baseline to post intervention, and these benefits were maintained at three months post intervention. However, there was no significant difference between groups in fatigue or quality of life and any assessment time. Similarly there was no difference between groups in adherence to the exercise intervention.

**Conclusions:** Both DVD based yoga and strengthening exercises designed for cancer survivors may be good options to address fatigue in breast cancer survivors. Both have reasonable uptake, are convenient and reproducible, and may be helpful in decreasing fatigue and improving quality of life in the first year post diagnosis in breast cancer patients with cancer related fatigue.

**Keywords:** Breast, Cancer, Fatigue, Strengthening, Survivors, Yoga

**CONCLUSION OF LITERATURE RESEARCH**

Upon researching Qualitative Research studies involving Yoga and Cancer, they appear to be limited. Most studies have been Quantitative however I feel that a Qualitative study is more appropriate for the subject, due to the variances in cancer types and symptoms.

Most studies are based around one particular type of cancer, in particular Breast Cancer. Obviously this must be due to the high rate of Breast Cancer. I have observed that despite the type of Cancer, once chemo or radiotherapy is administered the symptoms are similar, regardless of the type of cancer.

The first difference between my study and other studies is that I am looking at **any type of cancer** rather than one specific type. Often the drugs prescribed by the medical profession after treatment can be the same despite the varying cancers and then result in the same symptoms despite the different type of cancer.

The second difference is that a lot of studies seem to have been done on a group basis. As this study is using Yoga Therapy the teaching is on a **one to one basis**, and **tailored to suit each individual needs**, so this will be a more in depth study than on a group basis.

The third difference is that timing of group class studies can be difficult for participants to attend. However Yoga Therapy is done on a one to one basis with the convenience of a home practice resulting in **more time flexibility**.

The fourth difference is that in the group studies care-seekers are usually only practicing once a week, although some were given a DVD or booklet to create a home practice. With my study the requirement is to practice for a **minimum of four times per week**. Of course, this is also dependant on what is happening for the person as sometimes they can have a relapse and become fatigued, however this will all be monitored in the study.

The fifth difference is that studies I have researched are often only over a 7 – 9 weeks period. One study did go over six months with three yoga sessions per week. This Yoga Therapy study will be **administered over six months** minimum and requested home practice at least four times a week if possible. So in my study participants do shorter practices more often rather than 1 – 3 long practices per week.

#### **Five differences between my study and other studies:**

- 1/ This study is open to **any type of cancer**.
- 2/ Individual Yoga Therapy consultations to develop a **practice tailored to suit individual needs**, as opposed to group classes.
- 3/ At home yoga practice is developed so **more time flexibility** is allowed than attending fixed group class times.
- 4/ A minimum of four **home practices** per week will be encouraged, a minimum of 10 minutes, as opposed to one practice per week.
- 5/ This study will span over six months for each care-seeker as opposed to only 6 – 9 weeks in other studies.

I will also mention here that Group Class studies have allowed more socialising for participants with having cancer in common and offered support to each other. This is one disadvantage of the one on one Yoga Therapy research study, as participants practice privately at home. However I am hoping that the home practice will bring greater results due to the more regularity of practice.



## CHAPTER 3

### METHODOLOGY

This will be a Case Study Presentation based on semi structured interviews, which will allow room to follow up according to the particular situation.

Arising out of my research it has become clear to me that my Research Question will be: ***“Does Yoga Therapy aid in the Physical and Emotional recovery of Cancer Patients?”*** Therefore, I will be assessing each individual on how their type of cancer and treatment has affected them both physically and emotionally. It is my own personal experience with teaching Yoga to people with Cancer that helped me to understand the difficulties involved as a result of treatment. This knowledge allowed me to create the Case Study Research Questions based on the Physical and the Emotional Impact of cancer and cancer treatments.

Following is a Case Study Descriptive, which expands on each topic that will be assessed.

### CASE STUDY DESCRIPTIVE

#### PHYSICAL IMPACT

***Physical:-*** Pertaining to the body, to material things, or to physics. (In this case it is the body.)

***Impact:-*** The effect or influence that a change has on its environment. In this case the effect of cancer on the patient.

#### PAIN

***Pain:-*** Pain is an unpleasant feeling that is conveyed to the brain by sensory neurons. The discomfort signals actual or potential injury to the body. However, pain is more than a sensation, or the physical awareness of pain; it also includes perception, the subjective interpretation of the discomfort. Perception gives information on the pain's location, intensity, and something about its nature. The various conscious and unconscious responses to both sensation and perception, including the emotional response, add further definition to the overall concept of pain.

Pain can be from chemotherapy, commonly ongoing numbness and tingling in hands and feet. In more advanced cancer a tumour can be pressing on bones, nerves or other organs in the body.

#### LYMPHATIC SYSTEM:

***Lymphatic System:-*** 1/ pertaining to lymph or to lymphatic vessel  
2/ a lymphatic vessel

*Lymphatic ducts are two large vessels into which all lymphatic vessels converge. The right lymphatic duct joins the venous system at the junction of the right internal jugular and subclavian veins and carries lymph from the upper right side of the body.*

*The left lymphatic duct, or thoracic duct enters the circulatory system at the junction of the left internal jugular and subclavian veins; it return lymph from the upper left side of the body and from below the diaphragm.*

Cancer attacks the lymphatic system, as it does other systems of the body; a tumour of the lymphoid tissue is known as a lymphoma. Swollen lymph nodes are usually earliest sign of metastatic spread of cancer cells. Removal of lymph nodes can create swelling and fluid retention in the arms; or legs if cancer is in the groin region of the lymphatic system.

### **MUSCULOSKELETAL**

**Musculoskeletal:-** *All the muscles, bones, joints, and related structures, such as the tendons and connective tissue, that function in the movement of body parts and organs. Musculoskeletal system is the basis of locomotion in vertebrates, which is the contraction of muscles against a skeleton.*

Some medications which are used post chemo/radiotherapy bring on joint and muscular pain. Cramping muscles are experienced and a general tightening of the muscles. Leg and foot pain seems to be common post treatment.

### **FATIGUE**

**Fatigue:-** *Fatigue is physical and/or mental exhaustion that can be triggered by stress, medication, overwork, or mental and physical illness or disease. Physically, fatigue is characterised by a profound lack of energy, feelings of muscle weakness, and slowed movements or central nervous system reactions. Fatigue can also trigger serious mental exhaustion. Persistent fatigue can cause a lack of mental clarity, difficulty concentrating and in some cases, memory loss.*

Fatigue is the most common side effect of cancer and its treatments. Cancer fatigue differs from everyday tiredness and even adequate rest does not help.

### **JOINT PAIN (also Arthralgia)**

**Arthralgia:** *Pain in a joint.*

**Joint:** *The site of the junction or union of two or more bones of the body; its primary function is to provide motion and flexibility to the frame of the body. Some are immovable, such as the sutures which segments of bone are fused together in the skull. Others such as those between the vertebrae are gliding joints and have limited motion. However, most joints allow considerable motion. The most common type are the synovial joints, which have a complex internal structure, composed not only by ends of bones but also of ligaments, cartilage, the articular capsule, the synovial membrane and some bursae.*

**Pain:** *Refer to page nine.*

Arthralgia's can be due to side effects of particular chemotherapy treatments and medications.

### **SLEEP DISTURBANCE**

**Sleep:** *A period of rest for the body and mind, during which volition and consciousness are in partial or complete abeyance and the bodily functions partially suspended. Sleep has also been described as a behavioural state marked by*

*characteristic immobile posture and diminished but readily reversible sensitivity to external stimuli.*

**Disturbance:** *A departure or divergence from that which is considered normal.*

Sleep disturbance also includes insomnia, restless legs syndrome (RLS) and fragmented sleep. Insomnia is the most common, with up to 80% of cancer patients having difficulty fall and/or staying asleep. Some medications affect sleep. Stress, anxiety and pain will affect sleep also.

## **MOVEMENT**

**Movement:-** *An act of moving; also called motion. Movement produced by the person's own muscles.*

When a patient is experiencing joint and/or musculoskeletal pain the movement is restricted. Night cramps leave after pain the next day so again, movement is affected.

## **BREATHING DIFFICULTIES**

**Breath:-** *The air inhaled and exhaled during ventilation. In respiratory physiology, it is the process of exchange of air between the lungs and the ambient air.*

Shortness of breath is a common problem for people with cancer. Cancer Patients can often have lung scarring as a result of Chemo or Radiotherapy, which causes shortness of breath and breathing difficulties.

## **EMOTIONAL IMPACT**

**Emotion:-** *A state of arousal characterised by alteration of feeling tone and by physiologic behavioural changes. The external manifestation of emotion is call affect, a pervasive and sustained emotional state; mood. The physical form of emotion may be outward and evident to others, as in crying, laughing, blushing or a variety of facial expressions. However, emotion is not always reflected in one's appearance and actions even though psychic changes are taking place. Joy, grief, fear and anger are examples of emotions.*

**Impact:-** *The effect or influence that a change has on its environment. In this case the effect of cancer on the patient.*

## **STRESS AND ANXIETY**

**Stress:-** *Stress is defined as an organism's total response to environmental demands or pressures. When stress was first studied in the 1950's, the term was used to denote both the causes and the experienced effects of these pressures. More recently, however, the word stressor has been used for the stimulus that provokes a stress response. One recurrent disagreement among researchers concerns the definition of stress in humans. Is it primarily an external response that can be measured by changes in glandular secretions, skin reactions, and other physical functions, or is it an internal interpretation of, or reaction to, a stressor, or is it both?*

**Anxiety:-** *Anxiety is a multi-system response to a perceived threat or danger. It reflects a combination of biochemical changes in the body, the patient's personal*

history and memory, and the social situation. As far as is known, anxiety is a uniquely human experience. Other animals clearly know fear, but human anxiety involves an ability to use memory and imagination to move backward and forward in time, that animals do not appear to have. The anxiety that occurs in post traumatic syndromes indicates that human memory is much more complicated mental function than animal memory. Moreover, a large portion of human anxiety is produced by anticipation of future events.

Feeling anxious that the cancer will return and being unable to stop thinking about cancer. Feeling separate from others and feeling alone. Fear of the unknown.

### **SHOCK**

**Shock:-** a sudden event or experience that causes a feeling of surprise or distress. In this case the diagnosis of cancer. Organs can be deprived of oxygen in a state of shock. There are three stages of shock: Stage 1 which is also called compensated or non-progressive. Stage 2 is also called de-compensated or progressive, and Stage 3 is also called irreversible.

Shock is the first reaction to cancer diagnosis. Not believing what is happening. Being unable to express any emotion; feeling numb. Being in denial and unable to talk about it, alternatively talking about it constantly to help the news sink in.

### **GRIEF**

**Grief:-** Keen mental suffering or distress over affliction or loss. Mental suffering or distress in response to a threatened or real loss, as loss of a body part or function, death of another person, or loss of one's possessions, job, status or ideals.

A sense of loss of control occurs, which becomes a form of grief. Any loss will bring grief. Being told you have cancer and must commence treatment immediately means there has been no preparation for this, so it is sudden and so a sense of loss of control in one's life is experience. Potential loss of a former lifestyle and wondering will they ever get back to it? This moves into a feeling of loss of control.

### **ANGER**

**Anger:-** A feeling of tension and hostility, usually caused by anxiety aroused by a perceived threat to one's self, possessions, rights or values.

Discovering that one has a potentially terminal illness, such as cancer can bring on feelings of anger either towards the cancer, oneself or others.

### **LOSS OF CONTROL**

**Loss:-** The fact or action of losing something or someone. The amount by which a quantity or group is diminished; something that escapes from its owner's possession.  
**Control:-** The governing or limitation of certain objects, events or physical responses. A conscious restraint and regulation of impulses, and suppression of instincts and affects.

Being told you have cancer can be overwhelming and make you feel as though you are losing control of your life. (Also close to grief.)

**FAMILY**

*Family:- A group of people related by blood or marriage or a strong common bond, such as those descended from a common ancestor, or a husband, wife and their children*

Cancer can have a huge impact on the immediate family. If there are children they are now faced with the potential loss of a parent. It can also be reversed where a parent is faced with the possible loss of a child. Siblings of the cancer patient also now question their own health.

**PARTNER**

*Partner:- A generic term for an individual, group or organisation in partnership. As commonly used in the UK, partners live in a domestic relationship under the same roof.*

Sometimes partners cope well and become supportive, while others will go into denial.

**DEPRESSION**

*Depression:- In psychiatry, a mental state of altered mood characterized by feelings of sadness, despair, and discouragement; distinguished from grief, which is realistic and proportionate to a personal loss. Depression can result in a lowering or decrease of functional activity.*

Having cancer affects your emotional health. A cancer diagnosis can have a huge impact on most patients, families and caregivers. Feelings of depression are very common and it is a normal response to this life-changing experience.

In summary the Case Study Descriptive list is as follows:

**Physical Impact** includes:-

- **Pain levels** A/ Lymphatic System  
B/ Musculoskeletal  
C/ Joint pain (Arthralgia)
- **Fatigue**
- **Sleep**
- **Movement**
- **Breathing**

**Emotional Impact** includes:-

- **Stress and anxiety**
- **Shock**
- **Grief**
- **Anger**
- **Depression**
- **Family and Partner**
- **Loss of control**

From the above list of symptoms the Case Study Research Questions were developed and questions about any of these symptoms will be assessed at each consultation.

I will be conducting my study project consultations from my Yoga Studio. It will be a small but in depth study of 10 people, on a private one to one basis. Recruitment is by word of mouth and I will have enough people willing to volunteer in order for me to commence the study. I anticipate the study to progress over at least a six month period for each individual. However their commencement dates will be staggered in accordance with their time of diagnosis and treatment.

There will be the first meeting where observation and discussion takes place so that I can develop a profile of the Care Seeker. A **Consent Form#** will be completed by the volunteer Care Seeker.

I will follow the questions on **1<sup>st</sup> Meeting/Observation Assessment Sheet#** and information will be recorded and a file created for each person.

From this information I can build a profile on the Care Seeker and establish their symptoms (*heyam, sutra 2-16\**), their goal (*hanam, sutra 2-25\**), tools (*upayam, sutra 2-26\**) to be used and possibly discover some causes (*hetu, sutra 2-24\**), however this will probably come much later, and may be not at all.

The initial goal of the practice will be pacification (*samanam<*) of the symptoms and eventually progressing to elimination (*sodhanam<*) where the practice becomes more refined, symptoms have reduced and it is a more long term process which comes after *samanam*.

Other factors that will be taken into consideration when developing a practice will be about the place (*desa, sutra 2-31\**) where the person can practice, time (*kala, 2-31\**) what time of day can the practice be done and for how long, age (*vayah<*) of the person, activity (*vrtti<*) on a daily basis of the person, strength (*sakti<*) of the person and desire (*iccha<*) the person has to do yoga. The Yoga Therapist will also take the care-seekers pulse (*nadi pariksa<*), which enables the Yoga Therapist to learn more about them. It will reveal their body type (*dosha<*) which will be *vata, pitta* or *kapha* or various combinations of these three body types.

The second appointment will be within a few days of the first, at which point the teaching of their home practice will be administered.

The third consult will be one week to ten days after that. Depending on the progress of the Care Seeker appointments may stay at two week intervals for six to eight weeks. Then appointments would extend to monthly intervals. This would equal up to 12 consultations per person. Ten volunteers would total 120 consultations.

The structure of each class will vary depending on the care-seekers individual needs. However many yogic tools (*upayam, sutra 2-26\**), such as gentle exercise (*asana, sutra 2-29\**) breathing exercises (*pranayama, sutra 2-29\**), relaxation (*pratyahara, sutra 2-29\**), chanting and repetition of sacred sounds (*mantra, sutra 4-1*)



visualisation (*bhavana, sutra 4-25\**), meditation (*dhyana, sutra 2-29\**) will be used to assist the care-seeker with their recovery.

In order to go about the research I will be using the **Case Study Presentation Research Questionnaire#** on each consultation, which will enable me to monitor any positive or negative progress. This information will be gathered over a six month period, after which time I can assess the results of the study.

I plan to see my volunteer Care Seekers over a six month period. This six month period will be staggered in accordance with the commencement date of each care-seekers' Yoga Therapy Sessions.

At the end of the six month period the care-seeker will complete a **Cancer Study Research Survey Sheet#**, which is also based on the **Physical and Emotional Impact**. From this I am then able to assess any positive or negative results from the volunteers Yoga Therapy experience.

Ethically I will be using the Australian Governments' National Statement on Ethical Conduct in Human Research\* for appropriate ethical guidelines.

*\*Patanjalis Yoga Sutra's*

#Annexes

<from KHYF Study Modules 2 & 3

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## CHAPTER 4

### RESULTS

In this chapter I will report the findings of my research, based on Case Study Presentation assessment. There were ten volunteers in this study. Of these ten, three are now deceased. One person returned to work so decided to withdraw from the study. One person relocated so also withdrew from the study. So for five care-seekers their Yoga Therapy sessions were reduced due to their circumstances, however they still completed a Cancer Study Research Survey Form and experienced positive results.

Listed below chronologically in date of study commencement are basic details of those who volunteered.

Name	Age	Cancer Type	Study Commencement Date
Jane (Deceased)	51	Hodgkins Lymphoma	03/06/2013
Carolyn (Deceased)	50	Brain and Lung Cancer	24/07/2013
Anne-Maree	52	Breast Cancer	03/06/2014
Daphne	72	Breast Cancer	14/08/2014
Manuela	53	Ovarian Cancer	15/08/2014
Frederick	58	Stomach Cancer	02/10/2014
Jill	82	Breast Cancer	09/10/214
Lyn	67	Adrenal Cancer	18/11/2014
Brenda	52	Breast Cancer	23/03/2015
Mark (Deceased)	52	Bowel,Lung, Bone Cancer	08/08/2015

A variety of yogic tools were administered to the care-seekers in accordance with their individual needs. To quote from T Krishnamacharya, "Teach what is within you. Not as it applies to you, but as it applies to the one in front of you", from Yoga Makaranada, The Nectar of Yoga.

All care-seekers were given some kind of gentle exercise (*asana*) and breath-work (*pranayama*). Other tools that were used are relaxation (*pratyahara*), finger gestures (*nyasa*), visualisation (*bhavana*), chanting or *mantra*, meditation (*dhyana*). I will include some sample practices at the end of this chapter.

This study research is based on both the Physical and Emotional Impact of cancer and cancer treatment. As per the Case Study Descriptive in Chapter 2 the Research Survey Form assesses any changes in the following areas.

### PHYSICAL IMPACT

1. Pain
2. Lymphatic System Pain
3. Musculoskeletal Pain
4. Joint Pain (Arthralgia)
5. Fatigue
6. Sleep
7. Breathing

### EMOTIONAL IMPACT

1. Stress
2. Shock
3. Grief
4. Anger
5. Family/Partner
6. Depression
7. More in control

Some aspects of the areas of the survey are not relevant to all Care-seekers e.g. some were well over the emotion of shock and anger by the time they commenced this Yoga Therapy Study. As this study was open to various cancer types not all the physical aspects are relevant either e.g. lymphatic pain is usually connected to breast cancer and lymphedema.

Following are the findings as per regular observations and discussions together with each care-seekers' completed Cancer Study Research Survey Form.\* Personal comments from each care-seeker are also included.

**Jane** is female, 50 and had Hodgkins Lymphoma, which started in her left groin. Her treatment was chemotherapy.

Upon commencement of Yoga Therapy she was feeling unfit and fatigued. Having been a single mother of triplets for 18 years was taking its toll on her physically and financially. She was a smoker and also had ongoing hip pain which caused her to limp. She worked as a full-time shop assistant and was on her feet all day. She had done yoga previously and was keen to try it again.

She could allow 10 minutes in the morning and 10 minutes in the evening for yoga practice.

**Short Term Goal** (*Samanam*) – To give up morning cigarettes before work and replace with yoga practice.

**Long Term Goal** (*Sodhanam*) – To ease hip pain and give up smoking completely.

Once month into the study Janes energy levels had increased and she felt more positive mentally. She had also cut out her morning cigarettes. She loved the yoga and surprised at how relaxed it made her feel. However her left hip pain was not changing.

One month later Jane is still doing her practice and feeling positive. No change in hip pain.

Three months into the study she reports she is advised by a specialist she needs a hip replacement. Unfortunately she never had the hip replacement as her cancer worsened and spread to other areas of her lymphatic system. She had to re-locate to Perth (400 kms from Albany) where the doctors were to try stem cell therapy and more chemotherapy, but nothing worked and Jane lost her battle with cancer.

After four months and prior to her move to Perth Jane completed a Cancer Study Research Form and reported that physically her improvement had only been with fatigue, sleep and breathing. Emotionally she improved in all areas.

**Jane's Comments:** *Yoga has helped me immensely through this whole cancer journey. I used breathing techniques and nyasa during some long stints of chemotherapy. It helped me to feel more positive mentally, more in control of my life and to get in touch with my true feelings. As I also have a hip problem the gentle movements with the breath helped me to stay mobile, despite ongoing pain.*

**Carolyn** is female, 50 and has Brain and Lung Cancer. Her treatment was radio therapy and chemo therapy.

Upon commencement of Yoga Therapy Carolyn was experiencing fatigue, mild indigestion and anxiety. She had been exercising regularly and was fit prior to onset of the cancer. She is a smoker, but trying to give up. I visited her at her home as she was unable to drive due to the possibility of seizures from the brain tumours.

She can allow 15 – 20 minutes for a daily yoga practice.

**Short Term Goal** (*Samanam*) - Ease anxiety levels and ease indigestion.

**Long Term Goal** (*Sodhanam*) – Regain physical strength and increase energy.

One month into the study (practice) Carolyn has realised she needs to nurture herself more and that it is ok to do so. Allowing her self to sleep until she wakes and taking her time doing her housework. She is also setting small daily goals for herself, even if it was to call a friend.

Two months into the study her energy levels have increased sometimes, but it isn't continuous. Her length of breath has increased and it is helping her to relax.

Three months into the study and Carolyn has had a mild seizure and her partner is not coping well with her illness. However, she is accepting the situation more.

Four months into study and her lung tumour has grown and is restricting her breathing. She needed to exhale through her mouth however introduction of broken breathing (*krama*) brings some improvement.

Unfortunately Carolyn lost her battle with cancer and her Yoga Therapy was cut short.

Five months into the study and prior to admission to Hospice Carolyn completed a Cancer Study Research Form and reported physically she had improved in areas of fatigue, sleep, movement and breathing. She improved in most emotional areas except depression which had fluctuated.

**Carolyn's Comments:** *Yoga has helped me to relax more and be more accepting of my illness. Having a personal in-home guide to develop a yoga practice that suits my needs was perfect for me at this time. I felt improvement in some physical aspects such as fatigue, breathing, movement and sleep.*

**Anne-Maree** is female, 52 and has had Breast Cancer. Her treatment was surgery, chemotherapy and anti-cancer drugs however she stopped taking the drugs as they made her feel so unwell. She was quite fit prior to the onset of cancer with regular walking and swimming. She had done yoga years ago and was keen to try it again.

Upon commencement of Yoga Therapy she was feeling unfit, experiencing restless sleep due to hot flushes together with joint pain and foot numbness from drugs and chemotherapy. Her energy was also low. She was frustrated with conventional medicine.

She could allow 20 – 30 minutes daily for a yoga practice.

**Short Term Goal (Samanam)** - Reduce hot flushes, improve foot numbness and reduce joint pain.

**Long Term Goal (Sodhanam)** - Increase energy levels and regain some fitness.

Two months into the study Anne-Maree reported how much she loved her yoga practice. She could even do it when travelling with her work. Her energy levels had increased and she felt she was coming alive again and returning to her self. Hot flushes had reduced due to regular cooling breath (*sitali*).

She did get a cold, but was still able to do some very gentle *asanas*. She also had a set back two months later due to development of gall stones and surgery. However, she became very passionate about her yoga and resumed her practice as soon as she was able.

She also discovered that if stressed she could draw upon *pranayama* to calm herself down.

After seven months and at conclusion of Yoga Therapy, Anne-Maree reported on the Cancer Study Research Survey Form that all aspects of both physical and emotional impacts had improved.

**Anne-Maree's Comments:**

*Physically I had less feelings of congestion in my lymphatic system and the practice allows for better management.*

*Daily practice ensured continued reduction in musculoskeletal and joint pain.*

*Missing yoga even for a day results in stiffness. I am much more aware of my breathing in daily life also.*

*Emotionally having the support and guidance of a teacher to develop an individual daily practice has changed my relationship with my self physically, emotionally and spiritually. It has improved all relationships in my life and brought mindfulness practice to the fore.*

*Improvement experienced in both areas. Yoga allows me to be more mindful of the connection between physical, emotional and spiritual health. It has also given me an opportunity to improve my focus and discipline for self nurturing.*

**Daphne** is female, 72 and has had breast cancer. Her treatment included surgery, chemotherapy, and anti-cancer drugs. When she commenced Yoga Therapy she was experiencing breathlessness, right shoulder pain with limited movement, breast pain, tiredness, depression and lethargy. There was also lung scarring from chemotherapy.

She was very frustrated with conventional medicine. The anti-cancer drugs were giving her joint pain, burning feet and thrush.

She could allow 30 minutes daily (or at least four times a week) for Yoga Practice.

**Short Term Goal** (*samanan*) - To improve breathing, ease foot and shoulder pain

**Long Term Goal** (*Sodhanam*) -To regain lost physical strength and to improve her mood.

After one month of practice Daphne's energy levels had increased, breathing was better and she felt better generally with an improved mood.

Two months into the study she had a set aback due to a flu virus which settled on her lungs. She was hospitalised and needed oxygen. When she was well enough I introduced broken breathing (*krama*) with one pause on her inhale. She experienced improvement immediately, so continued including *krama* in her practice.

After seven months and at conclusion of Yoga Therapy, Daphne reported on the Cancer Study Research Survey Form that all areas of physical impact had improved except for lymphatic pain, which was no worse. All aspects of emotional impacts had improved.

**Daphne's Comments:** *Improvement in both physical and emotional. Most important has been focus on my injured body, with the feeling of control over my physical self so that I can heal and can regain emotional control.*

*Yoga has been the single most important positive factor in my cancer journey. All other interventions focused on the cancer, rather than on the person. Yoga helped me to regain my sense of self. Thank you.*

**Manuela** is female, 53 and has had Ovarian Cancer. Her cancer was discovered when she had a hysterectomy. Treatment was surgery and chemotherapy.

When she commenced Yoga Therapy she was experiencing fatigue, knee, hand and foot pain and night leg cramps. Her foot pain was severe. Initially she could not remove her orthotic shoes for yoga. No standing postures were given at this stage.

She could allow 20 – 30 minutes daily for a yoga practice.

**Short Term Goal** (*Samanam*) - Reduce pain and increase energy.

**Long Term Goal** (*Sodhanam*) - Return to dancing.

Six weeks into the study Manuela was experiencing improvement. Her energy levels increased and night cramps reduced. Some improvement in foot pain was felt, so she went to dance class, which aggravated the pain. However she was patient and there was improvements over time and manages to attend some dance classes.

She feels yoga helps prepare her for the day. Her breath has lengthened and she is sleeping better. Her foot pain has improved to a degree but remains ongoing and fluctuates.

After seven months and at conclusion of Yoga Therapy, Manuela reported on the Cancer Study Research Survey Form that all relevant aspects of physical impact had improved. Lymphatic pain and joint pain were not relevant to her. The only aspects of emotional impact relevant to her was stress levels and being more in control of life of which both improved.

**Manuela's Comments:** *My fatigue definitely improved. Movement in feet really improved despite some hiccups.*

*I feel like I have some measure of control in my life despite ongoing foot problems.*

**Frederick** is male, 58 and has had Stomach Cancer. His treatment was chemotherapy. He was also self administering lots of herbs, vitamin D and Vitamin C.

Upon commencement of Yoga Therapy he was experiencing loss of muscle tone and strength due to losing 10 kgs since onset of cancer. He was also fatigued. He was very tight in the upper back, shoulders and hamstrings. There was also pain on his left side from some old injuries. He walked on his farm 4 – 5 kms a day.

He could allow 20 – 30 minutes daily for yoga practice.

**Short Term Goal** (*Samanam*) – To regain lost muscle tone and strength.

**Long Term Goal** (*Sodhanam*) – Increase energy levels and return to work.

One month into the study the pain in Fredericks left side had improved. He felt more relaxed and his energy levels had increased.

One month later he was able to return to work which was a positive outcome, however the Yoga Therapy research sessions were cut short.

After two months and at conclusion of Yoga Therapy, Frederick reported on the Cancer Study Research Survey Form that all relevant aspects of physical impact had improved excluding lymphatic which was not relevant to him. The only emotional impact that he considered relevant to him was stress and that also improved.

**Fredericks Comments:** *Private yoga sessions with a home practice really helped me to recover physically and to learn not to push myself through pain. I realised how much tension I was holding in my body. Now I am able to relax more easily. Thankfully I am able to return to work and I will continue with a regular yoga practice at home.*

**Jill** is female, 82 and has had Breast Cancer. Her treatment included surgery, radio therapy and anti-cancer drugs. She is a fit 82 year old who walks regularly and plays golf.

When she commenced Yoga Therapy she was experiencing a stiff neck due to an old injury. She also found it hard to allow herself to relax. She always had to be busy. She also has hyperthyroidism so she is thin and a high active person consequently does not sleep well.

She could allow 20 – 30 minutes daily for yoga practice.

**Short Term Goal (Samanam)** – Learn to relax and relieve stiff neck..

**Long Term Goal (Sodhanam)** – Improve sleep and stay mobile.

One month into the study Jill had to travel to Bunbury (400kms from Albany) for six weeks of radiotherapy. She was still able to do a gentle yoga practice and she felt it helped to during this time, especially as she was living away from home.

After the radiotherapy her legs were very weak and she had tightness in her armpits. However after altering her practice to treat the new symptoms she became stronger over time.

Five months into the study she reported feeling a lot more in control of her life and she also refused another five years of anti-cancer drugs.

After seven months and at conclusion of Yoga Therapy, Jill reported on the Cancer Study Research Survey Form that all relevant aspects of physical impact had improved excluding lymphatic which was not relevant to her. Of the emotional impacts she felt only stress and being more in control were relevant and these both improved.

**Jill's Comments:** *I am moving much better since starting yoga. I am also sleeping much better. I am able to do things that I used to do prior to surgery.*

**Lyn** is female, 67 and has had Adrenal Cancer. Her treatment included surgery, however chemo/radio therapy was not recommended as apparently it is ineffective for this type of cancer.



She had multiple secondary cancer and has had one kidney removed, half her liver removed and at a later date some of her bowel removed. She also has back pain due to scoliosis which is creating a structural imbalance in her body.

When she commenced Yoga Therapy she was experiencing fatigue, poor sleep, back pain and foot pain. She also had a feeling of tightness under breasts which was a result of all her stomach surgery.

She could allow 20 – 30 minutes daily for a yoga practice.

**Short Term Goal (Samanam)** – To relieve tightness in ribs under her breasts.

**Long Term Goal (Sodhanam)** – To control back pain, improve sleep and stay mobile.

One month into the study Lyn reported relief from the rib pain under breasts.

One month later her back pain has improved. Foot pain was ongoing however her Doctor discovered she had arthritis in her feet.

After six months and at conclusion of Yoga Therapy, Lyn reported on the Cancer Study Research Survey Form that all relevant aspects of physical impact had improved excluding lymphatic which was not relevant to her.

Of the emotional impacts she felt only stress and being more in control were relevant and these both improved.

**Lyn's Comments:** *I am able to move more easily without pain since starting yoga. I find in stressful situations I can use yoga breathing to relax.*

**Brenda** is female, 52 and has had Breast Cancer. Her treatment has been surgery and chemotherapy. She had got through five years since Breast Cancer diagnosis and then it spread to her lymph nodes. More surgery was advised and now she has lymphedema affecting her left arm.

Upon commencement of Yoga Therapy she was experiencing stiffness in left side of neck, shoulder and upper back with fluid retention in the left arm. Some days she needed to wear a support sleeve to reduce the swelling. Any added stress exasperated the lymphedema.

She could allow 20 – 30 minutes daily for yoga practice.

**Short Term Goal (Samanam)** – Reduce swelling in left arm and reduce neck and shoulder pain.

**Long Term Goal (Sodhanam)** – Return to horse riding.

One month into the study Brenda had some improvement in neck and shoulder pain and mobility. The lymphedema fluctuated, but did not worsen.

Brenda had more of an emotional and spiritual shift than physical. She realised that she needed to give up her stressful job and return to things she was passionate about and to return to nature. She moved to a more rural area and resumed teaching singing; painting, being in nature, horses and practicing daily yoga. Due to this move in location her sessions only went over three months.

After three months and at conclusion of Yoga Therapy, Brenda reported on the Cancer Study Research Survey Form that all relevant aspects of physical impact had improved excluding joint pain which was not relevant to her. Lymphatic pain was fluctuating, but no worse.

Of the emotional impacts she felt improvement in all aspects.

**Brenda's Comments:** *Thankyou so much for re-introducing yoga into my life. As a result of this experience I have decided/realised that I need to give up my stressful job and return to the things I am passionate about. I also need to get back in touch with nature. Regular yoga practice is now an integral part of my life.*

**Mark** is male, 52 and has Bowel, Lung and Bone Cancer. His treatment was chemotherapy and radio therapy.

Upon commencement of Yoga Therapy mark was exhausted, pale and had a consistent cough. He was also experiencing acute lower back pain and poor sleep. He had been told by his Doctor back pain was due to Piriformis Syndrome.

He could allow 30 minutes a day for yoga practice, which we broke into an a.m. and p.m. practices.

**Short Term Goal (Samanam)** – To improve breathing and alleviate back pain.

**Long Term Goal (Sodhanam)** – Improve sleep and increase energy..

While Mark had never been a cigarette smoker due to his work he had experienced many years of passive smoking. His conditions were very challenging as he was so limited due to his back pain and also a constant cough made it difficult to breath evenly and consistently. However he was disciplined and persevered with whatever practice he could do.

One month into the study his breathing had improved and he had longer stints without coughing. Back pain was still bad but movement had improved.

Two months into the study the back pain had worsened.

One month later he was diagnosed with bone cancer.

Unfortunately Mark lost his battle with Cancer. After four months and prior to Marks admission to Hospice he completed a Cancer Study Research Form and reported that physical his improvement had been with fatigue, sleep, movement and breathing. Emotionally all aspects improved.

**Mark's Comments:** *Although I am at end stage of cancer I do feel yoga has assisted me emotionally. I learnt techniques to help me relax and calm my "monkey" mind. Nyasa, visualisation and counting 12 breaths with my hand were simple but effective. It made me feel more in control. Thank you, Helen for teaching me these useful tools. I especially love the term "monkey mind".*

### SAMPLE PRACTICE'S

On the following pages I have provided five practices that were given to five different care-seekers during the study. They could all allow 30 minutes for their practice.

**Anne-Maree** had reasonable fitness prior to commencement of Breast Cancer. When she joined the study she was feeling unfit, experiencing restless sleep due to hot flushes together with joint pain and foot numbness from drugs and chemotherapy. Her energy was also low. Anne-Maree liked to do her yoga practice after work so due to fatigue and foot pain her practice began from a supine position. Cooling breath (*sitali*) was included to help with her hot flushes.

**Daphne** had been fit prior to onset of cancer, with walking daily and canoeing weekly, in addition to already practicing some yoga. When she joined the study she was experiencing breathlessness (from lung scarring), right shoulder pain with limited movement, breast pain, tiredness, depression and lethargy. The priority was to improve breathing, so using recitation of OM on exhale helped with this. *Krama* was also introduced to her inhalation at a later date.

**Manuela** had been fit prior to onset of cancer. She attended multiple dance classes regularly and was keen to get back to it. When she joined the study she was experiencing fatigue, knee, hand and foot pain and night leg cramps. Her foot pain was severe. Initially she could not remove her orthotic shoes for yoga. No standing postures were given at this stage. I have included her fifth practice and by this time she was able to remove her shoes and do some standing postures using a chair. Using the chair helped to ease pressure on her toes.

When **Mark** joined the study he was exhausted, pale and had a persistent cough. He was also experiencing acute lower back pain and poor sleep. He had been told by his Doctor the back pain was due to Piriformis Syndrome. He was also having difficulty breathing, but was very keen to try yoga therapy. I did suspect that much more was going on in his lower back besides the piriformis and he did get diagnosed with bone cancer not long after this. He wanted a practice he could "break up" into three parts throughout his day as no position was comfortable for very long.

**Lyn** had many cancers and a lot of surgery over the years and when she joined the study she was experiencing fatigue, poor sleep, back pain and foot pain. She also had a feeling of tightness under breasts which was a result of all her stomach surgery. She also had a scoliosis which was aggravating her back pain. Once I observed her spinal x-rays I could establish the correct movements for the scoliosis. Moving opposite sides of the body helps to lengthen and straighten the spine, which is what is needed for scoliosis. *Krama* with one pause on her inhalation was recommended to extend her inhalation and open and relax her chest area to ease the tightness felt under her breasts.

<b>CANCER STUDY RESEARCH SURVEY EVALUATION SHEET - Based on 10 participants</b>				
<i>"Does Yoga Therapy aid in the physical and emotional recovery in Cancer Patients?"</i>				
<b>PHYSICAL IMPACT</b>				
1/ Have you experienced any improvement in pain levels?	A/ Improved	B/ No Change	C/ Worse	D/ Not Applicable
1a/ Lymphatic System Pain	2	1		7
1b/ Musculoskeletal Pain	7	3		
1c/ Joint Pain	4	1		5
2/ Have energy levels and <b>fatigue</b> improved?	10			
3/ Has your <b>sleep</b> improved?	10			
4/ Has your <b>movement</b> improved?	10			
5/ Has your <b>breathing</b> improved?	10			
<b>EMOTIONAL IMPACT</b>	A/ Improved	B/ No Change	C/ Worse	D/ Not Applicable
1/ Have your <b>stress</b> levels improved?	10			
2/ Have feelings of <b>shock</b> improved?	5			5
3/ Have feelings of <b>grief</b> improved?	4			6
4/ Have feelings of <b>anger</b> improved?	5			5
5/ Has your <b>family and partner</b> situation improved?	1			9
6/ Has the feeling of <b>depression</b> improved?	4			6
7/ Do you feel any <b>more in control</b> of your life?	10			



PRACTICE 1

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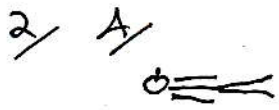
ANNE-MARIE

07/08/14

{ EASE JOINT PAIN. IMPROVE  
ENERGY LEVELS. REDUCE  
FLUSHES

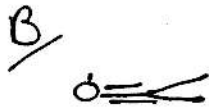


FOCUS ON BREATH x 12 BRS



IN + TENSE  
EXT RELEASE

x 4T



IN  
EX

& OPPOSITE SIDE  
x 4T EACH SIDE



IN  
EX



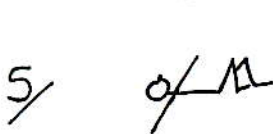
REPEAT RIGHT LEG  
& THEN BOTH.  
x 3T



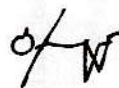
EX  
IN

x 4T

REST



EX  
IN




x 4T EACH SIDE

ANNE-MARIE CONT'D

6/    X 4T

7/    X 4T

8/  X 12 COOLING BREATH

9/    X 12  
AND SIT QUIETLY




# Studio

PRACTICE 1

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DAPHNE - 18/08/14

{ IMPROVE BREATHING. IMPROVE SHOULDER MOBILITY. INCREASE ENERGY LEVEL

1/  IN: FREE EX: OM X 6T

2/  (HANDS ON ♥)   ♀ OPPOSITE SIDE/LEG. X 4T EACH SIDE.

3/      X 4T

4/    ♀ OPPOSITE ARM X 4T EACH SIDE

5/      ♀ OPPOSITE SIDE X 4T EACH SIDE

REST  OR 

6/      X 4T

DAPHNE - CONT'D

REST



7/



4 OPPOSITE SIDE  
X4T EACH SIDE

8/



X4T

9/



SPINAL ROLL X4T EACH DIRECTION

10/



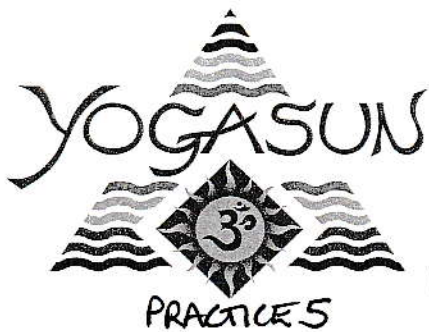
IN: FREE

EX: OM

X6T

(HANDS ON ABDOMEN)





# Studio

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PRACTICE 5

MANUELA - 13/11/14

{IMPROVE BREATHING. IMPROVE  
& CIRCULATION, NUMBNESS IN FEET



FREE IN & EX. HANDS ON LOWER DIAPHRAGM  
FEEL MOVEMENT. COUNT LENGTH OF BR  
IN SECONDS MENTALLY. X 8 BRS



RT ARM; LEFT ARM + (B) BOTH  
X 4T EACH



& OPPOSITE LEG. DORSIFLEXION  
FOOT ON EXTENSION.  
X 4T EACH SIDE.










ANKLE BENDING  
" ROTATIONS X 8T EACH



X 4T - RAISE HEELS ONLY  
IF NO PAIN IN FEET

MANUELA - CONT'D

6/        X 4T

7/      ♀ OPPOSITE SIDE  
X 4T EACH SIDE

REST



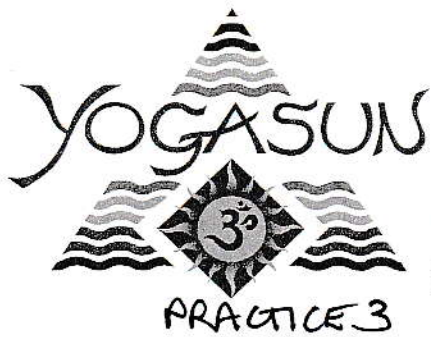
8/    + OPPOSITE SIDE  
X 4T EACH SIDE

9/    X 4T

10/    X 4T

11/      RT. LEG  
LEFT LEG  
THEN BOTH  
X 2T

12/  X 12 BRS.



Studio

PRACTICE 3

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MARK - 17/8/15

{ STRENGTHEN & STRETCH PIRIFORMIS  
OPEN CHEST AREA + IMPROVE BREATH

1/ OR

FOCUS ON BREATH  
X6 BRS.

2/

+ OPPOSITE  
LEG  
X4T EACH

3/

+ OPPOSITE LEG  
X4T EACH SIDE

4/

HOLD POSE FOR X3 BRS.  
REPEAT OPPOSITE LEG.

REST

5/

EXTEND OPPOSITE A  
TO LEG. X4T EACH

6/ X4T

7/ X2T EACH SIDE

STEP 1 FOOT TO FRONT + BACK  
CENTRE. STEP TO SIDE + BACK  
CENTRE. STEP BEHIND + BACK  
CENTRE.  
X2T EACH SIDE

MARK - CONT'D

8/ REST 

8/    X4T EACH SIDE

9/    X4T

10/    X4T

REST

OR



SIT AGAINST WALL.

X3 ROUNDS NYASA PRACTICE. PLACE PADDING UNDER HEAD.




# Studio



PRACTICE 3



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LYN - 16/12/15 { EASE CHEST TIGHTNESS. IMPROVE BALANCE  
PAIN + SCOLIOSIS





1/  FOCUS ON BREATH  
X6 BRS IN: KRAMA WITH ONE PAUSE  
EX: FREE

2/  KRAMA  
IN →  
EX ←  
 X4T EACH SIDE

3/  KRAMA  
IN →  
EX ←  
 X4T

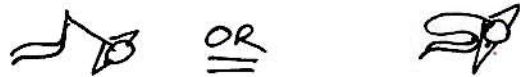
4/  IN →  
EX ←  
 X4T RAISING ARM + FLEXING  
OPPOSITE FOOT/TOES.  
& OPPOSITE SIDE.  
X2 RT. ARM RAISE > PER ROUND  
X1 LEFT " " " "

5/  IN →  
EX ←  
 X4T EACH SIDE  
X2 RT. ARM > EACH ROUND  
X1 LEFT " " " "

6/  IN →  
EX ←  
 EX →  
IN ←  
 IN →  
EX ←  
 X2T X2T

LYN - CONT'D

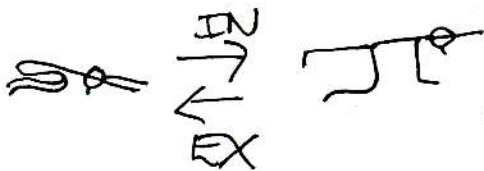
REST



7/



8/

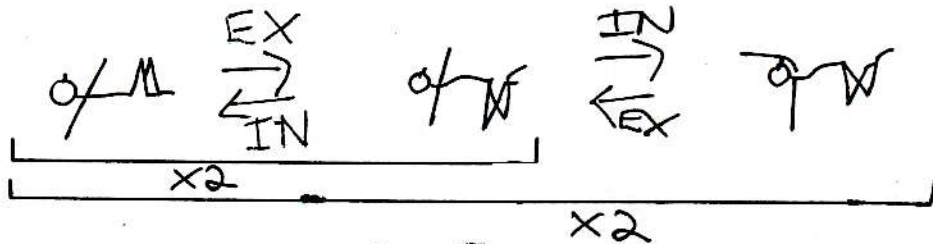


x4T OPPOSITE ARM TO LEG +  
CHANGE SIDES.  
X2 ON RT. ARM EXTENSION,  
X1 ON LEFT "

REST



9/



OPPOSITE SIDE  
HOLD FOR  
X1 BR ON  
RT. ARM RAISE  
& LEGS TO LEFT

10/



x4T EACH SIDE  
EXTEND OPPOSITE  
ARM TO LEG.

11/



REST



x12 BRS WITH NYASA

## CHAPTER 5

### Discussion

In this chapter I will provide my own analysis of the results presented in the previous chapter. My discussion will systematically present my research answers from the Research Questions used throughout the study. These same questions also appear on the Cancer Study Research Survey Forms.

As you will have seen on the Cancer Study Research Evaluation Form at the end of chapter 4, this gives an overview of the results and I will now expand on those results.

#### PHYSICAL IMPACT

##### 1/ Have you experienced any improvement in pain levels?

##### 1A/ Lymphatic System pain

**Results:** Out of 10 participants two improved, one no change and seven not applicable. [x2 Improved x 1 No Change x 7 Not Applicable]

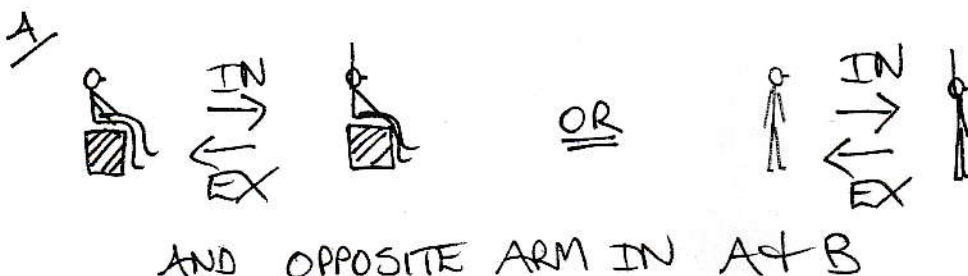
The goal for this symptom is to bring circulation to the area which then assists in easing the pain.

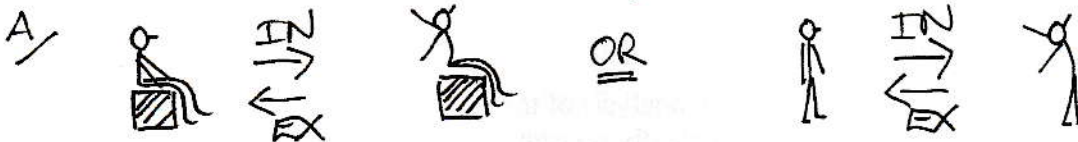
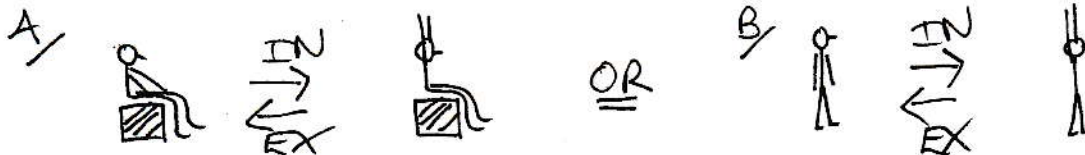
Lymphatic problems are associated with Breast and Lymphoma Cancers. The lymphatic area most affected is the armpit as lymph nodes are surgically removed which then creates swelling from fluid retention in the arm/s and becomes lymphedema. Lymphedema is difficult to treat as due to the removal of lymph nodes there is a change in the physiological system. Intervention with simple arm movements increased the circulation.

After lymphatic surgery cancer patients can also be left with tightness in the pectoralis and deltoid muscles, so expansive (*brhmana*) type movements are required to open up this area. Once again, practicing simple arm movements to expand the chest area is effective.

I also recommended warm oil application for lymphedema, to be applied in downward strokes from shoulder/armpit to hands.

To stimulate the lymphatic system in the armpit together with using the pectoralis and deltoid muscles I used simple asana as follows:





Arm movement to be done within care-seeker's limitations.  
NO PUSHING THROUGH PAIN.



And to the opposite side.  
Palms down if no shoulder pain,  
Palms up if any pain felt.

### 1B/ Musculoskeletal Pain

**Results:** Out of 10 participants seven improved and three no change.  
[x7 Improved x3 No Change]

Yoga postures are not just exercises but sustained scientific patterns of movement. There are no "jerky" movements they are of a slow continuous uniformed movement combined with the breath, giving strength without harm or injury. The neuromuscular (part of musculoskeletal) system is so composed that for every group of muscles that contract, another group relaxes. When the body is in a state of tension this reciprocal innervation becomes defective. Yoga postures re-organise and re-condition the systems to bring about physiological harmony. For joints to function efficiently the muscles controlling the joints must be kept strong and flexible and yoga achieves this.



When people are in pain they become tense in the physical body as though they are "holding" the pain. With upper body pain people may hunch forward from the neck/shoulders, if it is pain in the lower back, hip, knee or feet a limp will develop a limp which then upsets the balance of the physical body creating more pain in other areas.

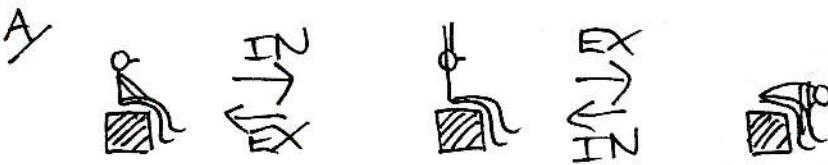
Simple *yogasanas* help to relax the muscles and simultaneously bring strength to the muscles, ligaments and tendons around the bones. Yoga Therapy intervention has a profound effect on the care-seeker due to the individually tailored practice to suit each individuals needs.

For example, if someone has one leg shorter than the other, whether from a scoliosis or joint damage can raise one leg slightly by having one foot on 1 – 2 yoga mats and the other foot on the floor. This will aid in bringing some correct alignment back into the body during their yoga practice. The Yoga practice then becomes even more effective for the Care-seeker.

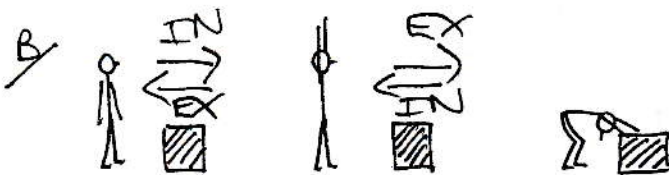
The postures given are varied dependent on which muscle group is affected, so I will give a variety of examples of recommended postures.

For shoulder muscles refer to same postures as given for lymphatic pain on pages 36 and 37.

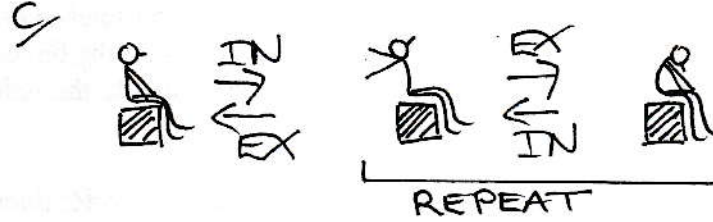
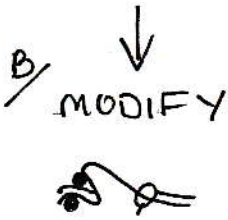
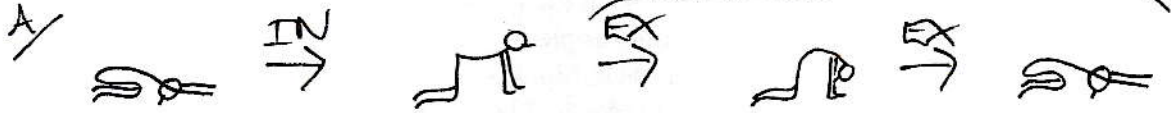
FOR LUMBAR REGION



A, B and C modifications of *uttanasana* dependent on care-seeker's limitations.



SPINAL; FOREARM; WRIST MUSCLES



NECK; SHOULDER MUSCLES



HIP; SPINAL; INNER THIGH MUSCLES



1C/ Joint Pain (Arthralgia)

**Results:** Out of 10 participants four improved, one no change and five were not applicable. [x4 Improved x1 No Change x5 Not Applicable]

Treatment for joint pain with Yoga Therapy is a continuation of musculoskeletal pain, in that the muscles, ligaments and tendons around the joints need to be strengthened in order to retain mobility in the joint. If the joints are not moved more pain and stiffness will result together with muscles around the joints becoming weaker and tighter which exasperates the situation.

A balance needs to be found between over activity and under activity for people with illness so Yoga Therapy intervention provides a gentle achievable practice to stabilise and balance the human system without harm or injury.

It is also very important when practicing yoga not to push through pain. The care-seeker must learn to stop the movement if pain is felt or increased. Once this is realised by the care-seeker their practice becomes more manageable and comfortable.

Over time with regular practice the care-seekers movements will increase as muscles strengthen resulting in more stability and movement in the joint.

I will give example of recommend postures for various joints in the body.

The anti-rheumatic series known as *Pawanmuktasana* is therapeutic for pain and joint stiffness. Following seated postures I have included from this series which can also be done seated on a chair.

	Toe bending; ankle bending; ankle rotations.	
	Knee crank	
	Hip movements; hip rotations.	
	(OR SEATED ON CHAIR)	Elbow bending; wrist rotations; fist rotations; clenching and opening fingers.
	(OR SEATED ON CHAIR)	Elbow bending – front and sides.
	(OR SEATED ON CHAIR)	Shoulder rotations.
	(OR SEATED ON CHAIR)	Turn head side to side and up and down. NO NECK ROTATIONS.

HIPS; KNEES

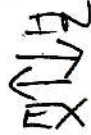


{  
AND  
OPP.  
SIDE

MODIFICATIONS



KNEES



FOOT PAIN



## 2/ Have energy levels and fatigue improved?

**Results:** Energy levels improved in all 10 participants. [x10 Improved]

Cancer patients all experience fatigue usually due to the effects of chemo therapy and the stress of their situation. Their sleep may also be affected which then aggravates fatigue.

Being ill takes energy and it leaves people depleted. Not only does chemo therapy kill the cancer cells it also breaks down the immune system so the care-seeker become vulnerable to colds/flu's, viruses and infections, which will deplete them even more.

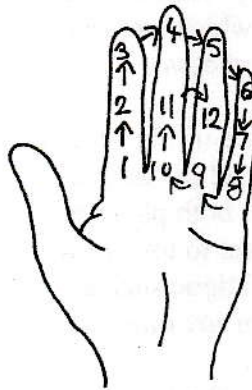
*Yogasana* performed with the breath as taught in the tradition of Krishnamacharya aids in raising energy levels. Due to the focus on breathing together with movement draws the energy or *prana* into the body and holds the energy inwards. In many other forms of exercise and movement the energy is pushed outside of the body and results in more fatigue and exhaustion, which is unsuitable during illness.

I have observed that if yoga is done with total awareness on the breath together with movement it becomes like a moving meditation. A one pointed awareness which takes the care seeker away from the stress and worry of their illness to a place of peace and calm. As this calmness occurs it flows on to the whole body. As their physical and mental tension reduces due to this effect they then relax more and as a result feel less fatigued. By bringing more *prana* into the body it aids in combating fatigue. Fighting fatigue will only exasperate the situation.

As they become more aware of their own body their self awareness increases and they realise they need to stop pushing themselves and become more self nurturing. This realisation also helps to combat fatigue.

I also advised care-seekers to honour their fatigue and rest regularly. Not necessarily sleep, but to just sit or lie comfortably and take x12 breaths using the simple finger counting system as taught by TKV Desikachar in his book "Heart of Yoga". Following is a diagram of this counting system from the mentioned aforementioned book.

The traditional method for counting breaths in *pranayama* practice.



Other relaxing practices to encourage rest are as follows:

+*Nyasa* practice whereby the fingers are used e.g. press thumb and pointer finger together firmly on inhalation and relax the touch on exhalation followed by a gentle "snap" of the thumb and fingertips and continue in the same manner with each fingertip on each hand. Repeat the cycle three times.

+Sliding *nyasa* whereby you slide the thumb up from the base to the tip of the finger on inhalation and slide it back down on exhalation, progressing through each finger and hand.

+The reciting of *Om* or any other mantra mentally or aloud using the traditional hand counting system as shown above.

+Visualise something or a scene that makes you feel peaceful.

+Simply closing eyes and mentally counting from 60 – 0 is restful.

For fatigue with cancer a balance of expansion (*brmhana*) and reduction (*langhana*) is required within the practice. *Brmhana* is needed to help open up the chest area and bring in more prana and *langhana* to relax the body.

The general overall effect of any yoga practice performed with combining the breath with the movement will enhance energy levels as the *prana* flow in the body is increased.

### 3/ Has your sleep improved?

**Results:** Sleep improved in all 10 participants. [x 10 Improved]

Sleep and fatigue are closely related. When people are experiencing illness, pain and stress it affects their sleep, which worsened the fatigue, so good sleep is very important in any recovery process.

Reasons for sleep disturbance in Cancer Patients can vary from night sweats to pain or a restless mind. As mentioned in "fatigue" the overall effects of the yoga practice will help to relax the care-seeker both physically and mentally. However more yogic tools are needed for the care-seeker to use anywhere, anytime. The additional tools are the same practices as used for fatigue such as x 12 breaths without or without mantra, visualisation, doing *nyasa* in *savasana* (during the night if can't sleep).

I also recommended a short 10 minute evening practice to aid with sleep. This helps the care-seeker to switch off from their day, technology and to relax and prepare the body and mind for sleep.

For night sweats regular practice of cooling breath (*Sitali*) is strongly recommended. This breathing exercise (*pranayama*) brings down the core temperature of the body. Inhale through the mouth with a rolled tongue as the head is raised, exhale through the nostrils as the head is lowered. Repeat at least x12 breaths.

The practices given on page 42 under fatigue and energy are also recommended to help with sleep.

### 4/ Has your movement improved?

**Results:** Movement improved for all 10 participants. [x10 Improved]

This quote is from Australian Yoga Teacher and author Pamela Browne and is appropriate to this topic. "Incorrect movement can harm; correct movements will heal. Moving can hurt, but not moving will destroy."

It can be a fine line between over activity and under activity in people with illness. Being too sedentary leads to tightness and stiffness in the body, being over active can result in pain and injury. Because Yoga Therapy treats care-seekers individually and holistically postures can be modified until a comfortable movement is established. Correct gentle movements with the breath will gradually ease stiffness and bring more movement to the body. Care-seekers feel elated that finally they have found a modality that caters to their own needs, rather than them trying to force their body into unnatural and inappropriate movements.

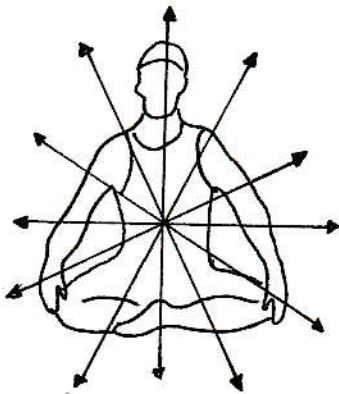
Over time with regular yoga practice the care-seekers' movements will improve as muscles strengthen and joints become more mobile. This overall effect improves movement.

The postures I have already presented in this chapter under Joint and Musculoskeletal Pain are also appropriate for Movement.

### 5/ Has your breathing improved?

**Results:** Breathing improved for all 10 participants. [x10 Improved]

The breath is the core part of yoga practice. Without the breath there is no yoga. Breath is prana and prana is life. When breathing is correctly co-ordinated with gentle yoga postures the breath naturally begins to lengthen which bring more prana into the body. In TKV Desikachars "Heart of Yoga" he gives an illustration depicting the action of prana in the body when people have illness.



(1)



(2)

A sick or restless person disperses prana beyond the body (1) because there are blocks hindering the flow of prana within. A peaceful, healthy person keeps more prana within the body (2).

I would like to include here an excerpt from Krishnamacharya's "Yoga Makaranda" on the subject of prana. "Even though there may be medicines which may act as remedies, it is necessary that *prana* has free and easy circulation in the body so that these medicines can enable the alleviation of disease (in the best possible manner).

The diaphragm is our chief muscle of respiration and the most important muscle in the body after the heart.

Correct breathing improves the blood circulation throughout the body including muscular tissue. The body relaxes and tension levels are lowered and stretching is enhanced.

Correct breathing and correct posture are closely related. The curved spinal column of a rounded back restricts the breathing space and puts pressure on the heart. A correctly stretched spinal column provides the ribs and lungs with the maximum space for full inhalation and full exhalation.

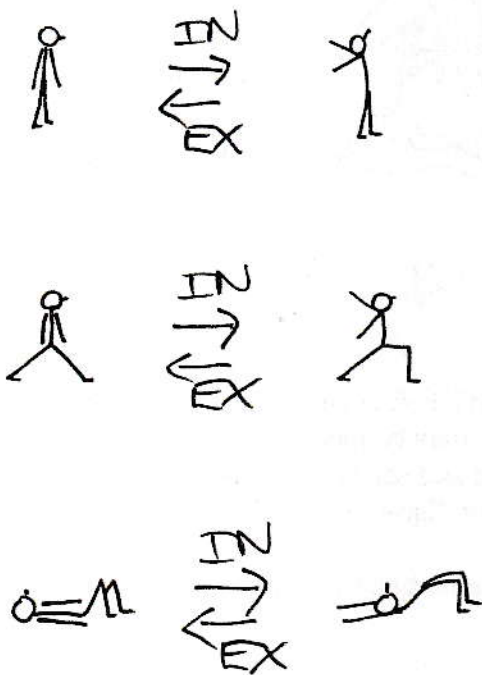
If chemo therapy is administered it can create lung scarring which then shortens the breath. With the shortness of breath posture can be affected by hunching forward which aggravates the situation. This can be very distressing to experience.

For care-seekers with lung scarring I found that using broken breathing (*krama*) with just one pause helped to extend the breath. Beginning with one pause on the inhalation and then adding to the exhalation if possible. By breaking the breath into stages it encourages the breath to slow and extend. Extension of the breath allows fresh prana into the body and more toxins to leave the body with a longer exhalation.. The result is that more energy is brought into the body creating an overall positive effect.

*Purvata* type postures help to open and expand the chest, which also aids in lengthening the breath. Combining correct movement with the breath helps to bring more prana into the body.

For some care-seekers I also recommended raising their upper body with extra support while sleeping, as lying flat tended to irritate the shortness of breath.

Some more *purvatana* type postures are as follows:





Pranayama practices are also very beneficial in assisting in extending the breath and bringing more prana into the body.

Cooling Breath (*Sitali*):- Sitting comfortably with a straight spine with eyes closed. Chin is tucked into the chest then inhaling through a rolled tongue as the head is raised to a comfortable position, then exhaling through both nostrils as the head is lowered again. Repeating 6 – 12 times.

Breath Extension:- IN: Free  
EX:     

Extend exhale by one second until reach maximum exhale  
= 1 round

Broken Breath (*krama*):- IN: Pause IN  
EX: Pause EX

This can be done on the inhale or exhale or both.

## **EMOTIONAL IMPACT**

### **1/ Have your stress and anxiety levels improved?**

**Results:** Stress levels improved in all 10 participants. [x 10 improved]

Cancer patients experience varied stress on different levels. The stress of sudden onset and diagnosis of cancer results in a whirlwind of doctor's appointments and treatments. There is the stress of dealing with family and friends regarding the cancer. The stress of trying to retain some normality despite all that is happening. Also wondering how long will I live? This also brings a feeling of anxiety about the future.

Yoga is very beneficial in dealing with stress. The physical aspect of yoga such as movements combined with the breath helps to relax the physical body and this then flows on to a neurological level. As our physical body relaxes so too will our mind and thoughts become more relaxed. The breath is like a bridge between the body and the mind. When the bridge is crossed the relaxation effect moves on to the mind and calms the thoughts. With this relaxation of the mind and disconnection from thoughts it helps to reduce stress. If yoga practice is done with total awareness the mind is then removed from all those usual daily thoughts. The mind takes a rest. We rest our body and we need to rest our mind as well. This "resting of the mind" as occurs in yoga is like taking a step back from all the daily activities, demands and stressors. This mind rest also enables the care-seeker to feel more mentally refreshed and a new perspective can be gained.

Unresolved continuous stress becomes distress and distress amplifies pain. If one can recognise the sources of their stress they are then in a position to work around them, recognise the triggers and how we react for they are often self generated. Stress is often aggravated by our own negative thought patterns.

Once again, the general overall effect of yoga practice will help to reduce stress levels. The practices I have also explained on page 42 such as *nyasa*; *mantra*; visualisation and *pranayama* practices on page 45 are all relevant in assisting with stress and anxiety. Simple techniques such as counting in ones mind in a stressful situation can help them to cope better in day to day situations.

## **2/ Have feelings of shock improved?**

**Results:** Out of 10 participants five improved five were not applicable.  
[x5 improved x5 not applicable]

Half of the care-seekers had already dealt with the shock of having cancer by the time they joined the study. So shock seems to be an initial response to cancer diagnosis, somehow people seem to come to terms with having cancer.

From a Yoga Therapy perspective it is advised to accept the illness as fighting it will make it worse. Acceptance sets us on the road to healing, even if it is more emotional healing than physical.

What helped to deal with shock was that through yoga practice the care-seeker re-connected with themselves, their body and mind. The modern world is very focused on external stimulation and sadly it is disconnecting people from their body, mind and their true self. Onset of cancer can bring up questions like what have I been doing or not doing to get so sick? Have I been ignoring my health and well being? The practice of yoga helps to reconnect to the body and our internal world and switch off from the external world. This allows time out for the care-seeker, which can shift mindset from shock to "OK, this is my body and I have to deal with it".

## **3/ Have feelings of grief improved?**

**Results:** Out of 10 participants four improved six were not applicable.  
[x4 improved x6 not applicable]

Grief results are similar to shock in that six out of 10 care-seekers had dealt with grief by the time they joined the study.

Grief is a feeling of loss and deep sorrow. Cancer patients experience grief due to what seems the loss of a previous life lived. Everything suddenly changes due to cancer diagnosis. They may lose their job and then experience loss of income and loss of purpose.

The following is an excerpt from Depak Chopras book "Ageless Body, Timeless Mind", which is relevant to some aspects of emotional stress.

“It is normally assumed that breathing is automatic and these automatic processes take care of themselves. What is not generally realised is that all emotions can affect our breathing e.g.

Grief causes spasmodic and superficial breathing.

Fear or anxiety causes shallow and rapid breathing.

Anger causes shallow inhalation and strong panting exhalation.

Guilt causes confined breathing, feeling of suffocation.”

So we know that there is a direct link between certain emotions and breathing. If an emotion can change our breathing patterns involuntarily, we can reverse this by voluntarily controlling the breathing. And so it is with Yoga that lengthening the breath is the key to a calm response.

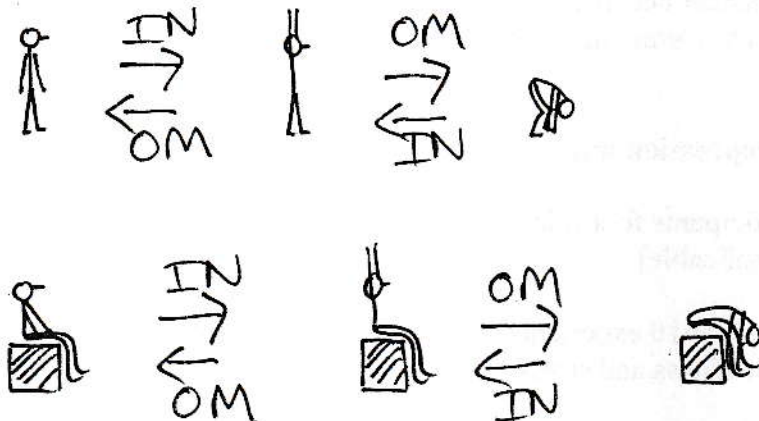
#### 4/ Have feelings of anger improved?

**Results:** Out of 10 participants five improved and five were not applicable.  
[x5 improved x5 not applicable]

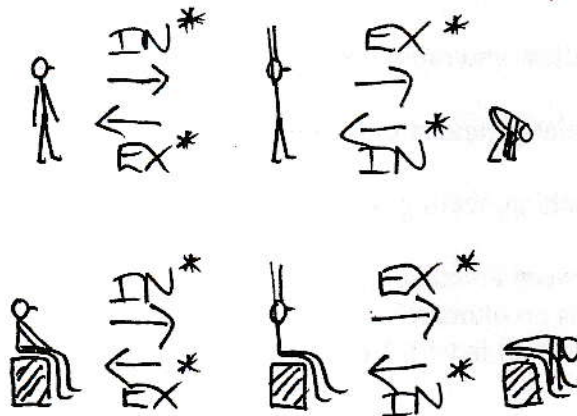
Anger can often follow on from grief. Initially the care-seeker will experience grief and sadness, but then this emotion shifts to anger. Being angry and frustrated with cancer diagnosis and having thoughts like, “Why me?” “What have I done to deserve this?” “It’s not fair!!” As stress levels are reduced through regular yoga practice, this will have an effect on other aspects of emotional stress including anger.

Some yogic tools are particularly good in helping to ease anger. Chanting is therapeutic for feelings of anger. By sounding, a verbal expression it aids in expelling negative feelings. Sometimes in anger people feel like screaming and I believe chanting a simple sound can assist in expressing and satisfying this desire in a safe way.

The recitation of Om especially if combined with a simple movement can shift the care-seekers mindset from anger to calmness. Om is the most powerful sacred syllable however other sounds such as Ha or Ma can be effective. The appropriate sound will be chosen by the Yoga Therapist but I do find Om one of the easiest but most powerful for people to learn and practice.



Practices using Breath Retention (*Kumbhaka*) are also effective for easing feelings of anger. Often we naturally hold the breath when experiencing anger, so this practice fulfills this urge. It also creates a long slow exhalation which helps to relax the body and mind.



\*Hold after inhale 2 – 5 seconds  
(*Antah kumbhaka*)

Hold after exhale 2 – 5 seconds  
(*Bahya kumbhaka*)

#### **5/ Has your family and partner situation improved?**

**Results:** Out of 10 participants one improved and nine were not applicable.  
[x1 improved x9 not applicable]

Of the 10 participants four were married and six were single by divorce or widowed, so for some there was no close relationship, but they all had extended family and friends offering support.

The four married people appeared to be in a good relationship with supportive partners. Although one care-seeker's husband would get angry at having to drive her to Perth monthly (800km return) for specialist appointments and treatments, which added to the care-seeker's stress. Sometimes the healthy partner just can't cope with the illness and walks away. One of my care-seekers experienced this but she felt it reduced her stress by her partner not being there. Everyone's personal situation is different.

The one care-seeker who experienced some improvement in her relationship with her partner felt that yoga had made her more aware of everything and everyone around her and in particular her supportive and caring partner.

Often the one with the cancer becomes the centre of attention but it is also difficult for the loved ones who are witnessing the illness, so they need support too.

#### **6/ Has the feeling of depression improved?**

**Results:** Out of 10 participants four improved and six were not applicable.  
[x4 improved x6 not applicable]

Surprisingly only four out of 10 experienced depression. Some people are more prone to depression in times of illness and stress than others. A feeling of hopelessness and

not being able to cope with anything occurs and this can be very debilitating and frustrating for the care-seeker and those close to them as nothing will cheer them, they have no motivation.

With depression a feeling of heaviness, lethargy and lack of motivation become dominant. I believe some type of action must be undertaken by the care-seeker. In the case of Yoga Therapy the action is yoga practice, this action of yoga improves the circulation, brings prana into the body and more energy is felt. With this comes some motivation, so the action creates the motivation and motivation creates more action. So it becomes a positive cycle of action creating motivation creating more action. This action may also be something like gardening, painting or cooking.

So the overall positive effects of all aspects of the yoga practice will assist with improving depression and regaining motivation.

### **7/ Do you feel more in control of your life?**

**Results:** All 10 participants improved. [x 10 improved]

Cancer patients experience a feeling of “loss of control” mainly due to the attitude of the medical profession. Doctors and Oncologists often make the care-seeker feel like they have no choice but to have chemo therapy or radio therapy with no other option. Then it is anti cancer drugs for up to five years. Care-seekers feel “rail-roaded” by doctors and are made to feel guilty if they opt out of the treatment. Three of my participants chose to discontinue with anti cancer medication as the side effects were so severe. One care-seeker said that within two weeks of this medication she went from 50 years old to feeling like a 90 year old. I also observed that ongoing foot pain is a common post chemo therapy symptom.

As the care-seeker experienced the positive effects of a regular home yoga practice, they began to feel stronger both emotionally and physically which in turn made them feel more in control of their lives. They felt like they were doing something for themselves, by themselves and this brings empowerment. If we feel empowered we feel more in control of our lives and more confident in the choices and decisions we make.

### **PULSE READING**

I would like to discuss Pulse Reading here as it is a vital component of Yoga Therapy. A Yoga Therapist takes the care-seekers pulse to learn more about them. It will reveal their body type/character or *dosha* which will be either *Vata*, *Pitta* or *Kapha* or various combinations of these body types. This can give some insight in to varying characteristics of the care-seeker and assist in developing their individual practice. For example following are some simple examples of the *doshas* and the effect they have on the body/mind and how the Yoga Therapist can use this information.

If a care-seeker's reading is strong *vata* then the Yoga Therapist knows they need to relax and slow them down.

If a care-seeker's reading is *kapha* the Yoga Therapist knows they need to lift the energy of the person.

If a care-seeker's pulse reading is *pitta* they may need to reduce body heat and high emotions.

Pulse reading also tells the Yoga Therapist if a yoga practice is too strong for the care-seeker. By taking their pulse pre practice and then post practice and if there is an increase in the pulse rate the practice is too strong and needs to be modified.

The dominant *dosha* for all 10 participants was *Vata* ranging from strong to weak. Some had slight *pitta*. I took the pulse on both wrists separately and a significant difference was felt from one side to the other. If their cancer was on a particular side of the body the pulse rate was either more rapid but weak or very weak and hard to feel. One person had strong *vata* on her left and weak *pitta/kapha* on her right.

This does leave me with the question, "Is it co-incidental that all participants had a *vata* reading or is this an effect of Cancer and Cancer treatment?"  
I feel this would need further research.

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## CHAPTER 6

### CONCLUSION

The process of doing this Case Study Presentation Research has allowed me to put all the theory learnt during the KHYF (Krishnamacharya Healing and Yoga Foundation) Yoga Therapy Study Modules, and observations during Internship at KYM (Krishnamacharya Yoga Mandarim) into practice.

Upon concluding this research study I feel I can confidently say that Yoga Therapy assists Cancer patients in recovery **physically** in the areas of **fatigue, sleep, movement, breathing**, and on an **emotional** level it helped to improve **stress and anxiety levels** together with **feeling more in control of their lives**.

In Yoga Therapy it is hoped that the true cause (*hetu*) of an illness will be revealed. Whether it is a re-active response or from deep emotional issues, often people can bring on their illness due to stress and negative thought patterns, habits (*samskaras, sutra 1-18\**) and reactions. So they have to look at themselves and say "What Have I done to contribute to this illness?"

In the case of cancer this is a very delicate area, due to the nature of the illness which most often is considered life threatening. If people are facing possible death it can be difficult for them to go deep into the emotional aspect of their lives, or to look at themselves and ask what they may or may not have done in the past to contribute to their current situation.

Yoga postures as given in Yoga Therapy will help to ease physical discomfort and some stress, but they will not reveal the full underlying cause (*hetu*) of the illness. Regular yoga practice can open the door to the emotions, but then the care-seeker has to be willing to walk through the door to further introspection and therapy.

If the care-provider and the care-seeker have a heart to heart connection (*nirmanacitta, sutra 4-4\**) then deeper issues can be reached, however with cancer sometimes there just is not enough time left for the care-seeker to do this.

I will also comment on the five differences that were established in chapter two between this research study compared to other studies.

1/ This study is open to **any type of cancer**.

**Comments:** It was interesting to observe that treatment side effects were the same despite the type of cancer. Post treatment such as chemo and radio therapy it is more about the "treatment" side effects creating the symptoms and no longer the actual cancer that is causing the problem. This certainly makes me question using chemo and radio therapy, especially when it is offered as a monthly maintenance treatment. Is this more about money in Doctors pockets or the genuine care of the patient?

\*Patanjali's Yoga Sutras

2/ Individual Yoga Therapy consultations to develop a **practice tailored to suit individual needs**, as opposed to group classes.

**Comments:** All ten participants really responded positively to private individual yoga sessions and the fact that they could develop a regular home practice (*sadhana*). Also, being able to continue on with their practice even if away from home was extremely useful.

3/ At home yoga practice is developed so **more time flexibility** is allowed than attending fixed group class times.

**Comments:** Once again, a home practice allowed the care-seeker to do yoga whenever they wanted to without the pressure of attending a group class. When feeling unwell it can sometimes be difficult to even leave the house, so a home practice can be done in ones pyjama's if they need to. They may not feel like doing their practice but once they commence the motivation usually arises to do more. So if a person is feeling this way it is unlikely they will attend a group class, even though it is probably just what they need to do.

4/ A minimum of four **home practices** per week will be encouraged, a minimum of 10 minutes, as opposed to one practice per week.

**Comments:** The regularity of a home practice at least four times a week resulted in positive and more permanent results and effects as opposed to a weekly class, which most other studies are based.

5/ This study will span over six months for each care-seeker as opposed to only 6 – 9 weeks in other studies.

**Comments:** Each participant on this study new that it was for at least six months, so they felt they had plenty of time to experience the effects and benefits of Yoga Therapy. Unfortunately some did not have that long, however for those who did it gave them a peace of mind in feeling that the ongoing Yoga Therapy was like some kind of support, just for them alone.

### Anecdotes

One of my care-seekers was also a personal friend, however Jane died prior to completion of this study. I attended her funeral and was totally shocked that she had her children especially acknowledge and thank me for bringing yoga into her life and how all the yoga tools she learnt helped her to cope right to the very end. I was deeply touched that Jane even thought about this when she was dying.

Another care-seeker, Daphne had a traumatic experience of breathlessness post chemo therapy from lung scarring. She was hospitalised and required oxygen. She was sent home the next day with any oxygen tank and she was devastated by this thinking it would be a permanent situation. I suggested trying broken breathing (*krama*) on her inhalation and she felt an instant improvement. She was vigilant with her practice and the oxygen tank was returned to the hospital within a matter of days.



One other care-seeker decided to leave her marriage during the beginning of her cancer as her partner was just adding more stress to her situation by being unsupportive. She needed to be alone in order to remain positive and nurture herself. Very early into the study she felt that the Yoga Therapy had made her realise that she needed to give up her stressful, but well paid job and return to nature and to do the things she was passionate about.

A common symptom of chemo therapy that I have observed is foot pain, with numbness which affected care-seeker's balance and general day to day activities. Three different care-seekers described their foot pain being like a steel rod being pushed into their feet. Resting in a mild inversion using a chair was helpful and simple foot movement whilst seated helped with circulation but this seemed to be an ongoing problem. Chemo therapy may kill the cancer but it also kills other parts of the body creating ongoing health problems.

It was also interesting to observe one care-seeker who had no chemo therapy as treatment, just surgery. While she has had multiple surgeries and recurring cancers over the years she displays an energy and vibrancy while other care-seekers who had chemo therapy did not.

Another interesting observation was that all 10 participants had *vata* pulse readings. Was this their true body type or was it due to the cancer and cancer treatment? I feel this would require a larger study group to establish broader results.

So while Yoga Therapy does not offer a cure for cancer patients, it helps them to cope in this extremely adverse situation. It never ceases to amaze me at the profound effect of Yoga and Yoga Therapy.



# ANNEXES

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**PERMISSION FOR YOGA THERAPY CASE STUDY PRESENTATION  
RESEARCH THESIS**

*“Does Yoga Therapy aid in the physical and emotional recovery of cancer patients?”*

NAME:.....

ADDRESS:.....

PHONE CONTACT:.....

I.....give permission for Helen Leeder-Carlson to use my records and feedback information for her Case Study Presentation Research.

This thesis is part of Yoga Therapy Training Course and is a mandatory component of the course.

Only the care seekers Christian name will be used in the project or it can be an anonymous name if preferred.

Dated.....day of..... 20....

SIGNATURE of Care Seeker:-

.....

1<sup>ST</sup> MEETING/OBSERVATION ASSESSMENT SHEET – YOGA THERAPY

DATE:.....

NAME:.....

CONTACT:.....

DATE OF BIRTH:.....

FEMALE..... MALE.....

MARITAL STATUS.....

OCCUPATION.....

CHILDREN/HOW MANY?.....

FITNESS LEVEL.....

SLEEP PATTERNS.....

MEALS/EATING PATTERNS.....

BOWEL MOVEMENTS.....

MENSTRUAL CYCLE.....

Peri-menopausal.....Menopause.....Post-menopause.....

EXERCISE REGIME.....

FAMILY HISTORY – MOTHER.....

FATHER.....

SYMPTOMS YOU ARE EXPERIENCING UPON COMMENCEMENT OF YOGA?

.....  
.....  
.....  
.....  
.....

MEDICATION.....

2/...

SMOKER?.....

HOW DO THEY APPEAR? (eg relaxed, tense, agitated, anxious etc).....

EMOTIONAL STATE.....

BELIEF IN YOGA?.....

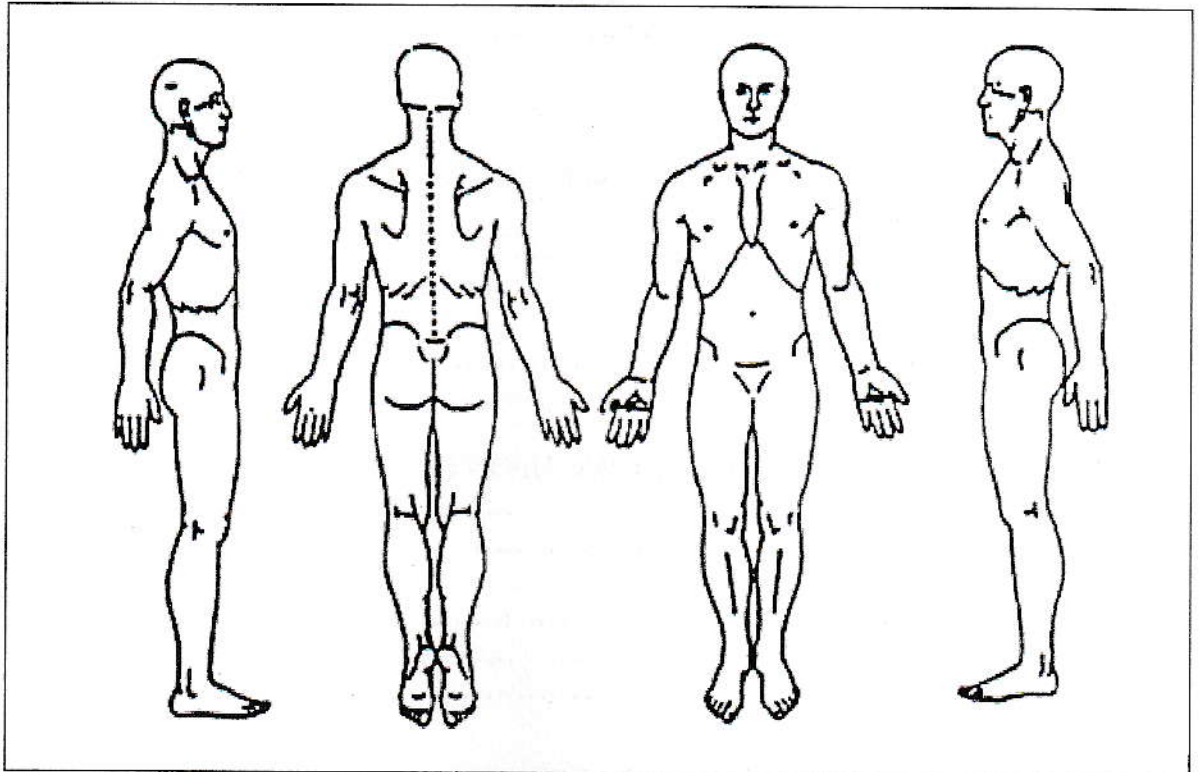
MOTIVATION FOR YOGA?.....

HOW MUCH TIME CAN YOU SPARE DAILY FOR YOUR YOGA PRACTICE? (Minimum 10 minutes).....

PULSE.....

OBSERVATIONS:

Samastitthi



3/...

SAVASANA

UPAYAM (Tools).....  
.....  
.....  
.....

HANAM (Goal).....  
.....  
.....  
.....

HETU (Cause).....  
.....  
.....  
.....

ANY OTHER NOTES:

**ON-GOING YOGA THERAPY RESEARCH CONSULTATION**

DATE:.....

NAME.....

How often have you been able to do your home practice?.....

.....

**PHYSICAL IMPACT**

Are you experiencing any **pain**?.....

A/**Musculoskeletal**.....

.....

B/ **Joint Pain**.....

.....

How are your energy levels? Are you feeling any **fatigue**?.....

.....

Are you experiencing any **sleep disturbances**?.....

.....

Is **movement** a problem in any way?.....

.....

How is your length of **breath**? Has breathing improved or worsened?.....

.....

**EMOTIONAL IMPACT**

Have you been feeling **stressed or anxious**?.....

.....

2/...

Have you felt **anger** towards the cancer or anything else since diagnosis?.....

.....

How are you **family and partner** coping with your illness?.....

How has your mood been? Have you been feeling any **depression**?.....

.....

Do you feel any **more in control** of your life?.....

.....

Pulse reading: Before Practice.....

After Practice.....

Yoga Therapists Notes:



<b>CANCER STUDY RESEARCH SURVEY</b>			
<i>"Does Yoga Therapy aid in the physical and emotional recovery in Cancer Patients?"</i>			
<b>PHYSICAL IMPACT</b>			
1/ Have you experienced any improvement in pain levels?	A/ Improved	B/ No Improvement	C/ Worse
1a/ Lymphatic System Pain			COMMENT
1b/ Musculoskeletal Pain			
1c/ Joint Pain			
2/ Have energy levels and fatigue improved?			
3/ Has your sleep improved?			
4/ Has your movement improved?			
5/ Has your breathing improved?			
<b>EMOTIONAL IMPACT</b>	A/ Improved	B/ No Improvement	C/ Worse
1/ Have your stress levels improved?			COMMENT
2/ Have feelings of shock improved?			
3/ Have feelings of grief improved?			
4/ Have feelings of anger improved?			
5/ Has your family and partner situation improved?			

6/ Has the feeling of <b>depression</b> improved?				
7/ Do you feel any <b>more in control</b> of your life?				
<b>What has been your most noticeable area of improvement?</b>			PHYSICAL	EMOTIONAL PLEASE EXPLAIN

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“Your Back Yoga and You”, by Pamela Browne

“Modules 3 and 4 of KHYF Yoga Therapy Study Modules”,  
With Dr. Kausthub Desikachar

**ARTICLE 1 - Study Title:** *A qualitative study of self-perceived effects of Mindfulness-based Stress Reduction (MBSR) in a psychosocial oncology setting.*  
**Authors:** Michael Mackenzie, University of Delaware, USA; Linda Carlson, The University of Calgary, USA; Micael Speca, Alberta Health Services, USA

**ARTICLE 2 - Study Title:** *Restorative Yoga for Women with Ovarian or Breast Findings from a Pilot Study*  
**Authors:** Suzanne C. Danhauer, Janet A. Tooze, Cassie R. Campbell, Richard P. McQuellon and Brigitte E. Miller; Wake Forest University School of Medicine, Winston Salem, NC; Deborah F Farmer, Winston Salem State University, Winston Salem, NC; Rolland Barrett, Derrick L. Davis Forsyth Regional Cancer Centre, Winston Salem, NC.

**ARTICLE 3 - Study Title:** *Yoga breathing for cancer chemotherapy-associated symptoms and quality of life: results of a pilot randomised controlled trial*  
**Authors:** A Chruva, C. Miaskowski, D Abrams, M Acree, B Cooper, S Goodman, FM Hecht

**ARTICLE 4 - Study Title:** *Yoga in adult cancer: an exploratory, qualitative analysis of the patient experience*  
**Authors:** Marcy McCall, Kellogg College, University of Oxford, UK; Sally Thorne, School of Nursing, University of British Columbia; Alison Ward and Carl Heneghan, Department of Primary Health Care Services, University of Oxford, UK.

**ARTICLE 5 - Study Title:** *Randomised pilot trial of yoga versus strengthening exercises in breast cancer survivors with cancer-related fatigue.*

**Authors:** DL Stan, KA Croghan, IT Croghan, SM Jenkins, SJ Sutherland, AL Cheville, S Pruthi

“National Statement on Ethical Conduct in Human Research 2007” (updated 2014)  
Compiled by: Australian Government; National Health and Medical Research Council; Australian Research Council

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**YOGA TEACHER  
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27<sup>th</sup> March 2017

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Chennai 600028 Tamil Nadu

Hello at KHYF,

I am enclosing my edited thesis as requested by Examiner Anita Claney.

I was uncertain as to whether three copies were required, but have sent three just in case it is needed.

I have been in contact with Kausthub directly and he informed me that my Certificate would be issued upon receipt of my edited thesis. I am certainly hoping this is the case as I do not wish to wait another nine months for a response to the edited thesis.

It would also be good if you could acknowledge receipt of my thesis when it arrives at KHYF.

Many thanks for your co-operation.

Kindest regards,

A handwritten signature in blue ink that reads "Helen Leeder-Carlson".

Helen Leeder-Carlson

Enc.