Can Late Effects After Treatment for Throat and Oral Cavity Cancer Be Reduced with CranioSacral Therapy?

Experiences and Considerations in Treating Late Effects with CranioSacral Therapy – A Guide for Professionals

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Independent Practitioner Research Project

Archived by
Upledger Institute International

In this paper, you will learn about:

1. How I have gained experience working with people experiencing late effects after treatment for throat and oral cavity cancer.
2. Potential outcomes of CranioSacral Therapy for individuals with late effects.
3. Key considerations for practitioners treating late effects with CranioSacral Therapy.
4. Where to find more information.

Background of the Project

Late effects refer to persistent or delayed symptoms, functional changes, or complications that develop months or years after medical treatment has been completed, often resulting from the body's long-term response to interventions such as surgery, radiation, or chemotherapy.

Unfortunately, late effects after treatment for cancer of the throat and oral cavity are common. Many people suffer from dry mouth, which is one of the most frequent and persistent symptoms. The treatments currently offered in the established healthcare system—such as physiotherapy, lymphedema therapy, and medications for dry mouth—are often palliative and provide only limited relief. So far, no treatment has shown a consistently satisfactory effect on dry mouth.

Stem cell therapy may offer promising results for dry mouth in the future, but it is not yet a standard treatment.

In addition to dry mouth, this patient group often experiences a range of other late effects, including:

- Lymphedema
- Breathing difficulties
- Fatigue
- Swallowing difficulties
- Sleep disturbances

Dr. John E. Upledger developed a manual therapy treatment protocol called the "Avenue of Expression," which is part of the curriculum in Upledger Institutes International's educational training in CranioSacral Therapy. This protocol targets areas that are often affected by scar tissue and/or radiation damage.

The Method Used in This Project

This paper is based on experiences from a pilot project involving 10 participants who were living with late effects following treatment for cancer of the throat and oral cavity. Each participant received five CranioSacral Therapy sessions, each lasting approximately 50 minutes.

The treatment protocol "Avenue of Expression" was used in this project.

To evaluate the effect of the treatment, participants completed a questionnaire that assessed:
• The degree to which dry mouth affected daily life
• The presence and severity of 12 known late effects associated with this patient group

Assessments were conducted at three points:

1. Before the first treatment.
2. After the fifth (final) treatment session.
3. At a six-month follow-up, to determine whether any effects of the treatment were sustained over time.

In addition to the CranioSacral Therapy sessions, most participants were also given individual exercises. These exercises were designed to stretch the lung tissue and the fascial chains running between the diaphragm and the occiput, supporting the overall therapeutic goals.

Who Participated in the Project?

A total of 10 individuals took part in the project, ranging in age from 40 to 80 years. The group consisted of 4 men and 6 women.

At the time of participation, it had been between 2 and 20 years since they had completed treatment for cancer of the throat or oral cavity. Among the participants:

- 9 out of 10 had undergone radiotherapy.
- 8 out of 10 had undergone surgery involving the throat or oral cavity.

To be included in the project, participants were required to experience a significant degree of dry mouth, which was a central focus of the treatment and evaluation.

Results

The results (see Table A below for more detail) suggest that CranioSacral Therapy may be effective for some participants—though not all—in reducing symptoms of several known and bothersome late effects. These include:

- Sleep problems
- Breathing difficulties
- Constipation
- Difficulty swallowing
- Stiff or tense neck
- Dry mouth (For more detailed results, see Table B)

Some participants also reported that the positive effects persisted 6 months after finishing treatment for some symptoms:

- Constipation
- Stiff/tense neck
- Breathing problems
- Difficulty swallowing
- Fatigue

The persistence of these effects is especially noteworthy, as many people experiencing late effects find that the benefits of supportive treatments often diminish within days or weeks unless treatment is

continued.

Quite surprisingly, three participants reported a higher overall level of functioning following the treatment period. All three also experienced reduced breathing difficulties, which may have contributed to increased energy levels and greater capacity for physical activity.

Table A

Results after the 5th Treatment Session	Results after 6 Months Without Additional Treatment
Improvements • 2/10 experienced slightly less dry mouth • 2/2 experienced less constipation • 1/7 experienced less difficulty swallowing • 3/5 experienced less neck tension • 4/6 experienced improved breathing • 1/3 experienced reduced fatigue • 2/3 experienced improved sleep	Sustained Improvements • 1 participant used less constipation medication • 1 participant had less difficulty swallowing • 2 participants had fewer symptoms related to neck tension • 4 participants experienced improved breathing • 1 participant experienced reduced fatigue Additional Outcomes • 3 participants significantly increased their level of function • 1 participant experienced fewer headaches No Sustained Effect • Dry mouth • Sleeping difficulties

Table B

Measure	Baseline	After 5th Treatment	6-Month Follow-Up
VAS Dry Mouth Score (0 = none, 10 = worst possible)	8 (range 6–10)	6.7 (range 3–10)	7.2 (range 5–10)
Questionnaire Total Score (15 = worst, 75 = best)	46.4 (range 30–63)	50.12 (range 35–69)	49.6 (range 30–64)

Insights from the project

With these results in mind, I would like to share my experiences from the project to benefit both professional staff and, importantly, their clients. These recommendations apply particularly to those treated for cancer in the throat and oral cavities but may also be relevant for individuals with sequelae from cancer treatment elsewhere in the body.

Use of the Avenue of Expression Treatment Protocol

In the research project, I followed the Avenue of Expression protocol fairly strictly, although I started with the diaphragm. The original intention was to complete the full Avenue of Expression protocol within each of the five treatment sessions. However, this was only achieved with four out of ten participants, as radiation-treated tissue often required significantly more time to respond and release than anticipated.

Moving forward, I intend to work more individually and responsively, guided by each client's tissue responses, compensatory patterns, nervous system presentation, and the body's priorities as they emerge during treatment. This reflects the Upledger CranioSacral Therapy Paradigm, which emphasizes evaluating and treating each person as an individual rather than applying a rigid protocol, recognizing that the Avenue of Expression may not address all restrictions or factors contributing to a client's symptoms within a limited number of sessions. Some participants did not experience noticeable improvement during the first three sessions but reported significant changes later in the process, suggesting that irradiated tissue and nervous system patterns may require a longer treatment progression and greater flexibility in therapeutic approach.

However:

- The Avenue of Expression protocol can be a valuable framework to keep in mind during treatment.
- It offers a broad range of focus areas that may be especially relevant for this patient group.

Trauma-Informed Considerations

- **Recognize the potential for trauma:**
  It is estimated that one-third of all cancer survivors experience Post Traumatic Stress Disorder (PTSD) related to their illness. Those treated for cancer of the throat and oral cavities often undergo intensive radiation therapy, which may include periods of tube feeding. An important early focus of treatment may therefore involve supporting regulation of an autonomic nervous system that has been shaped by prolonged physical and emotional stress associated with the cancer experience and its treatment.
- **Initial conversation:**
  Consider whether a detailed discussion about the disease course could be retraumatizing. Aim to gather necessary information without requiring the full narrative.
- **Therapeutic presence:**
  Take time to establish a calm and respectful therapeutic presence. These clients may have endured intense and invasive physical experiences and often need to feel safe and have their boundaries respected.
- **Treatment pacing:**
  Consider inducing Still Points at the feet and wait until the client's body is ready for more tissue-focused work. A Still Point is a gentle technique that has been shown to help the nervous system to settle and the tissues to soften.
- **Positive anchors:**
  Before treatment, ask about what nourishes the client in daily life or what helped them mentally

during their treatment. These positive images or experiences can be revisited during therapy if stress responses arise.

- **Avoid overwhelming the client:**
  Ground yourself before sessions. If treatment causes an increased stress response, invite the client to engage in supportive self-regulation techniques, such as placing their hands on areas needing loving attention, humming, or focusing on their feet. Humming may help stimulate the vagus nerve, which can support relaxation, parasympathetic nervous system activity, and a sense of safety. Focusing on the feet may help promote grounding by increasing the client's awareness of bodily support and connection to the present moment, which can help reduce overwhelm and support nervous system regulation.

Addressing Breathing Restrictions

Many participants in the project exhibited signs of restricted breathing. Addressing these restrictions can provide a crucial foundation before working with more primary issues related to the throat and mouth.

- Use listening techniques around the entire thorax, and remain attentive to any trauma-related responses, particularly in relation to the heart and lungs.

Considerations for Radiation-Damaged Tissue

In my experience, radiation-damaged tissue often behaves differently from healthy tissue. It may feel almost stagnant and typically responds more slowly to therapeutic touch.

- Take your time and cultivate a calm therapeutic presence.
- Wait and remain present with the stillness in the tissue.
- Use direction-of-energy techniques—when invited by the tissue—as radiation-exposed areas may already have absorbed significant energetic input.

Dural Glide Restrictions Between the Atlas and Occiput

Almost all participants showed significant restrictions in dural glide around the atlas, axis, and occiput. In this patient group, such restrictions are often linked to scar tissue and radiation damage in the ventral fascial chains, particularly the upper middle chain, which extends from the diaphragm to the anterior portion of the posterior edge of the foramen magnum.

In many cases, it was only possible to restore more normal dural glide and enable posterior glide of the occiput relative to the atlas after addressing restrictions in the diaphragm, thoracic outlet, neck, hyoid, and floor of the mouth.

Notably, two participants reported significantly improved sleep following treatment of the neck and atlas/axis/occiput. My hypothesis is that these restrictions may have contributed to obstructive sleep apnea and impaired vagus nerve function.

- When encountering reduced dural glide at the cranial base, consider first addressing the ventral fascial chains, floor of the mouth, and tongue before proceeding with direct cranial base work.

Treatment of Radiation-Damaged Tissue Takes Time

Considerations Regarding Time Consumption

One of the most surprising findings in this project was how long radiation-treated tissue takes to respond to CranioSacral Therapy. The original plan was to complete the full *Avenue of Expression*

protocol within each of the five treatment sessions. However, this was only achieved with four out of ten participants.

Some participants did not experience noticeable improvement during the first three sessions but reported significant changes later in the process. It is therefore important to prepare patients with irradiated tissue by explaining that it may take four or more sessions before effects are felt.

Treatment Frequency Considerations

Participants were divided into two groups:

- One group received five treatments at one-week intervals.
- The other group had 14-day intervals between sessions.

Participants who received weekly treatments showed improved outcomes and were better able to build on the effects of previous sessions. Consider scheduling treatments one week apart to optimize therapeutic progress.

Safety Considerations – Especially Around the Upper Cervical Vertebrae

This patient group may have compromised bone tissue due to radiation exposure. Additionally, vital ligaments around the upper cervical vertebrae may be weakened, particularly if the patient received high doses of adrenocortical hormones during chemotherapy.

- Exercise caution when working around the upper neck.
- Avoid using full platform techniques.
- If you have training in chiropractic manipulation, do not apply those techniques with this patient group.

Considerations Around Primary and Secondary Tissue Restrictions

In this trial, all but one participant had radiation localized to the throat and oral cavity. Nevertheless, eight participants exhibited significant tissue restrictions in other areas of the body. My hypothesis is that the primary tissue damage from radiation and surgery may have spread through the fascial system, leading to secondary restrictions further from the original site. Additionally, systemic tissue responses to shock and trauma may also play a role.

Secondary tissue restrictions often respond more readily to CranioSacral Therapy than tissues directly affected by radiation or surgery, and improvements in these compensatory areas may also be more sustained over time.

Prepare clients for the possibility that maintenance treatments may be necessary, especially when working with primary tissue damage, and particularly when the tissue has been exposed to radiation.

Timing of Treatment After Cancer Therapy

In this study, participants were only included if at least two years had passed since the end of their cancer treatment. Therefore, I do not have direct experience treating late effects earlier in the post-cancer timeline. However, I believe that earlier intervention could be beneficial for several reasons:

1. To address psychological and systemic responses to the trauma of cancer and its treatment.
2. To help prevent the development of secondary tissue restrictions.
3. To support optimal breathing patterns early on, which may contribute to improved overall function—as suggested by the results of this trial.

- Consider initiating CranioSacral Therapy as soon as the client feels ready after completing cancer treatment and has been medically cleared or released for treatment by their oncologist or healthcare team.
- Do not apply manual therapy techniques directly to irradiated tissue until at least two weeks after completion of radiation treatment and only after adequate tissue healing has occurred.

Considerations for Treating Dry Mouth

Effectiveness Depends on Salivary Gland Integrity

The primary aim of this trial was to explore whether CranioSacral Therapy could help alleviate the sensation of dry mouth. Overall, the effect was limited. Only two participants experienced noticeable improvement, and only one reported improvement significant enough to affect daily life.

Dry mouth following cancer treatment in the throat and oral cavity may result from:

1. Direct damage to the salivary glands from radiation.
2. Surgical removal of the salivary glands.
3. Damage to surrounding tissue, reducing blood supply to the glands (saliva is produced from blood delivered to the glands).
4. Side effects of medications.

Based on my observations, CranioSacral Therapy may primarily enhance blood flow to the salivary glands. Therefore, if the glands themselves are damaged or removed, the therapy is unlikely to be effective. However, if the glands are intact but under-perfused, CranioSacral Therapy may help reduce dry mouth symptoms.

This assessment is supported by one participant who had previously undergone stem cell therapy targeting salivary gland function. Although the stem cell treatment alone had not produced a clear benefit, the participant reported noticeable improvement in dry mouth following CranioSacral Therapy. It is possible that the stem cell therapy restored some glandular capacity, while CranioSacral Therapy improved local tissue mobility and circulation, thereby supporting glandular function, as well as potentially the effects of the stem cell treatment.

- Consider CranioSacral Therapy for dry mouth primarily when some salivary gland function remains, and inform clients that outcomes may depend on the underlying cause of their symptoms.
- During treatment, consider the arterial supply to the major salivary glands—particularly the external carotid artery and its branches—and assess for tissue restrictions that may affect local circulation.
- If the client's major salivary glands, especially the submandibular glands, have been severely damaged or removed, reduction of dry mouth symptoms through CranioSacral Therapy may be limited.
- If dry mouth is the client's only late effect, CranioSacral Therapy may have limited ability to significantly change the condition.
- If the client has previously undergone stem cell therapy with limited results, CranioSacral Therapy may help support additional improvement in dry mouth symptoms.

Considerations Regarding Lymphedema

Three participants in the study presented with visible lymphedema, and none experienced improvement in their condition through CranioSacral Therapy. In this patient group, both visible and occult (hidden) lymphedema are known to occur. Occult lymphedema may be located between fascial layers in the neck and throat, exerting inward pressure that can contribute to symptoms such as difficulty swallowing, sleep apnea, and reduced blood flow.

Some of the observed improvements in sleep and swallowing may be attributed to a reduction in occult lymphedema, resulting from enhanced lymphatic flow.

In lymphedema therapy, drainage typically begins centrally, near where lymph enters the venous system, and then progresses peripherally. The lymphatic system drains into the bloodstream at the brachiocephalic vein on the left side, just below the upper sternum.

- If you are trained in lymphatic palpation and treatment techniques, consider incorporating them
- Pay special attention to the thoracic inlet, focusing on both blood supply and lymphatic drainage, as this area is particularly relevant for this patient group.

Supplementing Treatment with Breathing and Postural Exercises

Many participants exhibited restricted breathing and several postural imbalances, often due to radiation-induced tissue shortening. Common postural patterns included:

- A forward-curved upper back with forward head posture.
- A lateral head tilt, especially in those who had received unilateral neck radiation therapy.

In this study, participants were guided through simple exercises aimed at stretching tissue around the lungs and along the upper medial fascial chains. Exercises were introduced only after the CranioSacral Rhythm became palpable in the targeted area. The goal was to help maintain the improved tissue glide achieved during treatment.

My Exercise Guidelines:

- Stretch only to the **first noticeable resistance**—not to the point of pain or full stretch.
- Perform exercises in a **relaxed state.**
- Use **inhalation during the stretch** to deepen the tissue release.

I have created a series of **instructional videos (in Danish)** that are freely available on my website. You are welcome to use these videos to support your clients' home practice. Several participants found the exercises helpful for improving breathing patterns and supporting a more upright posture.

- Consider supplementing CranioSacral Therapy with a tailored series of exercises to promote deeper breathing and improved posture.
- You can access the exercises here: https://www.rahbekkst.dk/oevelser-til-dig-der-lider-af-vejrtraekningsbesvaer-efter-kraeftbehandling/

Considerations for Applying These Findings to Other Cancer Patient Groups

Although this trial focused on individuals treated for cancer in the throat and oral cavities, CranioSacral Therapy may also benefit clients experiencing late effects from cancer located elsewhere in the body. Many of the core treatment principles may be broadly applicable.

When CranioSacral Therapy Shows No Effect and there is Fatigue, Severe Shortness of Breath and/or Severely Disrupted Sleep: What to Consider

Fatigue, shortness of breath, and sleep disturbances are common late effects in this patient group. These symptoms may be linked and result from cancer treatment, but while CranioSacral Therapy may help alleviate these symptoms for some, it is important to recognize when additional medical support may be necessary.

- **Breathing Difficulties:**
  If a client struggles to breathe even while sitting still and talking, consider whether restricted breathing mechanics are preventing adequate oxygen intake. A simple oxygen saturation test performed by their physician can help determine this. If oxygen levels are low, oxygen supplementation may be beneficial.
- **Interrupted Sleep and Fatigue:**
  If a client experiences severely disrupted sleep or feels unrested despite sleeping, consider the possibility of sleep apnea, potentially caused by narrowing of the upper pharynx. Research suggests this patient group may be at increased risk. A sleep study can confirm the diagnosis, and treatment with CPAP (Continuous Positive Airway Pressure) may significantly improve sleep quality and reduce fatigue.

Further Reading

This article is based on a pilot clinical project and practitioner guidance paper by **Cathrine Rahbek** titled *Can Late Effects After Treatment for Throat and Oral Cavity Cancer Be Reduced with CranioSacral Therapy?* The project is associated with registered clinical trial **NCT05882890** and is archived by Upledger Institute International as a preliminary, non-peer-reviewed publication.

Readers interested in reviewing the full clinical trial information, methodology, and additional project details may visit the following resources:

- **Clinical Trial Registration**
  National Institutes of Health – National Library of Medicine – ClinicalTrials.gov
  https://clinicaltrials.gov/study/NCT05882890?cond=Xerostomia&intr=craniosacraltherapy&rank=1
- **Research Project Information**
  Cathrine Rahbek Research Website
  https://www.rahbekkst.dk/kan-kraniosakralterapi-kombineret-med-oevelser-mindske-mundtoerhed-efter-straalebehandling-i-mund-og-hals-og-har-det-effekt-paa-andre-senfoelger-et-pilotprojekt/

Possible Sources of Error in This Project

While the findings from this pilot project are promising, several limitations must be acknowledged:

- **Small Sample Size:**
  The project included only **10 participants**. A larger-scale study is necessary before drawing definitive conclusions about the effectiveness of CranioSacral Therapy for late effects following cancer treatment in the throat and oral cavity.

- **Lack of a Control Group:**
  This study did not include a control group, which limits the ability to distinguish treatment effects from natural variation or placebo response.
- **Unblinded Data Collection and Analysis:**
  The treatment, data collection, and analysis were all carried out by the same individual, and there was no blinding involved. This introduces the potential for observer bias.
- **Self-Financed Project:**
  The project was entirely self-funded.
- **Use of a Structured Treatment Protocol:**

  Although the Avenue of Expression protocol provided a useful treatment framework, the Upledger CranioSacral Therapy Paradigm emphasizes individualized assessment and following the body's tissue responses and priorities as they emerge during treatment. A more flexible and fully individualized treatment approach may have produced different outcomes for some participants.

Side Effects

Participants in this project were asked to keep a side effect diary to help identify any adverse reactions to treatment.

No side effects were reported that required medical attention or resulted in serious harm. The reactions observed were mild, transient, and consistent with those commonly reported in other patient groups receiving CranioSacral Therapy. The most common reactions included soreness in the neck or upper thoracic region (2 participants), low energy or fatigue (3 participants), and bowel changes (4 participants).

Final Remarks

If you have any questions about the written material or the instructional videos, feel free to contact me at:
cathrine@rahbekkst.dk

I truly appreciate your interest in this topic and hope that my reflections and experiences will be helpful in your work with clients experiencing late effects after cancer treatment.

If you observe positive outcomes from treatment or identify new therapeutic focus areas that seem meaningful, I would be very happy to hear from you—with your client's consent, of course.

Additionally, if you have ideas for funding opportunities or potential collaboration partners for future research, I warmly welcome your input.

A Warm Thank You:

To all participants in this project, for their time and their permission to share these results with you.

To The Danish Cancer Association who have provided a treatment room for carrying out the treatments.

To Friends and colleagues for helping me with the protocol and technical and statistical details

Cathrine Rahbek, PT, CST-T, is a Danish physiotherapist and certified Upledger CranioSacral Therapy practitioner with a clinical focus on trauma-informed care, post-cancer rehabilitation, nervous system regulation, breathing dysfunction, and chronic pain conditions. She has worked in clinical practice since 2012 and has pursued extensive training in CranioSacral Therapy, osteopathy, and body-centered therapeutic approaches. Cathrine integrates principles of the Upledger CranioSacral Therapy Paradigm with a patient-centered and individualized approach to care. Her clinical interests include the treatment of late effects following cancer therapy, particularly symptoms related to radiation-induced tissue changes, breathing restrictions, fatigue, and autonomic nervous system dysregulation.