WORKING WITH THE LONG COVID CLIENT: A MASSAGE THERAPIST'S PERSPECTIVE

As of April 2021, it is estimated that there are 1.1 million people in the UK living with long Covid, according to the Office of National Statistics: a condition that did not exist one year ago (https://bit.ly/3p2r8Qf). Yet, since March 2020 many massage therapists have been unable to work hands-on in clinic and so as a profession we have little or no clinical experience of treating people with long Covid. With many massage therapists being independent self-employed practitioners, how can we best inform ourselves for treating this new cohort of clients? We need to have some clear ideas to develop our clinical reasoning behind our treatments based on the experience of those within the medical profession. Even then, we need to realise that our understanding of long Covid is developing and, as yet, there is not a clear definitive strategy to 'fix' long Covid symptoms. Read this article online https://bit.ly/3x6FhyC

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Covid-19 is the now-familiar name for the disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus that led to a global pandemic starting in 2020. As with most viral infections many people caught the disease and recovered well. However, what has become apparent are the long-term effects that the virus can have.

More so than any disease studied in recent years, a significant number of people who are infected with Covid-19 can still experience symptoms more than 12 weeks after infection. This is termed long Covid (1*).

What we are learning is that the presenting symptoms can be wide and varied (Box 1) in both the acute and long Covid stages. Fatigue (94%) and dyspnoea (89.5%) are the most commonly experienced (2*), but patients usually experience a 'cluster of symptoms which can fluctuate and change over time and can affect any system in the body' (1*).

What Is Happening to the Body?

Initially SARS-CoV-2 was treated as a respiratory virus but the medical world soon realised that this did not do justice to the damage it causes as it quickly spreads within the body through the vascular system.

Once in the lungs, SARS-CoV-2 triggers an immune response. In some people this has led to the detection of significantly high numbers of inflammatory cells, in quantities expressed as a 'cytokine storm' (4*,5*).

The influx of the immune cells in the presence of the virus causes damage to some of the delicate lung tissues and allows the SARS-CoV-2 virus to escape into surrounding tissues, usually through blood vessels into the rest of the body. Using our blood vessels as its own transport system, SARS-CoV-2 has an effective way of latching onto a variety of cell membranes via ACE2 (angiotensin-converting enzyme 2), found in blood vessels and many organs in the body (6*), as well as via NRP-1 (neuropilin-1) receptors, which are present in the olfactory bulb and in nerve cells (7*) including the brain stem.

The brain stem controls many involuntary mechanisms in the body, such as breathing, blood pressure, heart rate, vomiting, respiratory rate and coughing (8*). Once it is attached to a receptor, SARS-CoV-2 uses various

Box 1: Long Covid clients can experience more than one of any of the following symptoms Sourced Goërtz et al. ERJ Open Research 2020;6(4):00542-2020 (2); Al-Jahdhami et al. Oman Medical Journal 2021;36(1):e220 (3)

- Breathlessness/dyspnoea, chest pain
- Ongoing cough, change in voice, 'lung burn'
- Fatigue and/or post-exertional fatigue
- Poor sleep or sleep that isn't refreshing
- Brain fog, cognitive impairment, 'fuzziness', memory loss
- Headaches
- Orthostatic hypotension, dizziness, light-headedness
- Muscle and joint pain
- Skin rashes: urticaria, 'Covid-toe', skin mottling
- Heart issues such as racing heart rate, myocarditis, arrhythmia
- Anosmia (loss of smell), parosmia (distorted taste/smell) and ageusia (loss of taste)
- Blood coagulopathy, microembolisms, stroke
- Gastrointestinal issues, abdominal pain, nausea

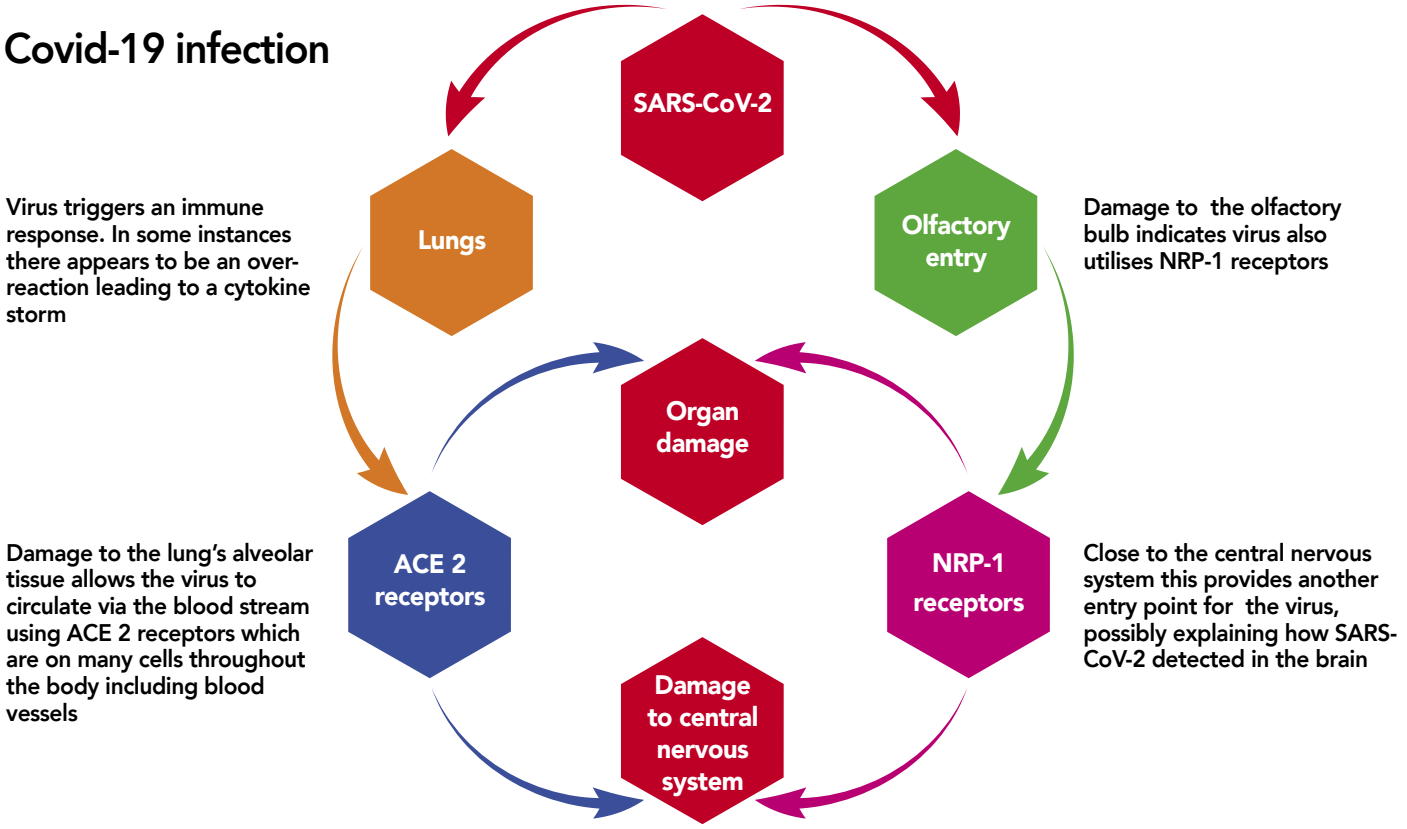


Figure 1: How SARS-CoV-2 can impact multiple systems in the body

cellular proteins to cleave its spike and allow genetic material to infiltrate the cell.

As with many bacteria and pathogens in the body, once detected, the body's self defence mechanism kicks in with an immune system response. A variety of pro-inflammatory processes occur that can trigger a 'cytokine storm', which can cause organ failure (9*). This over-reaction increases oxidative stress on the body (and can overwhelm the ability of the body to convert reactive oxygen using various biological systems), possibly fuelling further cellular destruction and inflammation (10*).

A simplified diagram of these processes is shown in Figure 1.

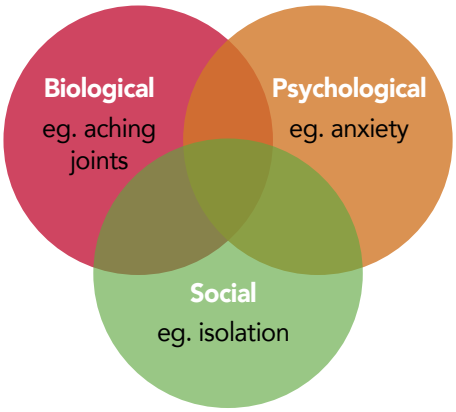


Figure 2: Biopsychosocial model

So How Does All of This Information Help Us to Treat Long Covid Clients?

Biopsychosocial Approach

The Jing method adopts a biopsychosocial approach to treating clients (Fig. 2) (11). This means trying to collate information about the biological symptoms a client is experiencing as well as any psychological and social factors that might be contributing to a person's experience of good health.

We know that if someone has chronic joint pain (biological symptom), it might affect their ability to go out as they are worried about the painful consequences (increasing social isolation) and they then become more anxious about their condition (psychological factors). These can feed off each other and exacerbate symptoms.

Salduker et al. point out that patients' experiences of pain are profoundly influenced by their emotional and psychological wellbeing, social circumstances, cultural and spiritual beliefs (12*). Pain is isolating, emotionally exhausting and adversely impacts on social relationships, daily functions, sleep and self-worth. Then we have to factor in the effect of 2020–21 and lockdown on people's subjective experience of Covid-19.

Informing Our Clinical Reasoning for Treatment

In informing our clinical thinking, we need to:

- interpret the lessons learnt from medical and allied health professionals with respect to their knowledge on long Covid gained during a period when many massage therapists were unable to practice;
- evaluate information learnt from

other related pathologies where we have clinical experience, in particular those associated with post-viral syndromes and myalgic encephalomyelitis (ME) / chronic fatigue syndrome (CFS) and any crossover to long Covid;
- cautiously apply our skills using an informed approach to develop a holistic treatment of long Covid knowing that there is not a 'one size fits all' approach because of the variability in symptoms not just between clients but also experienced by individual clients; and
- accept that we are on a learning curve about treating long Covid and be aware of the need to refer to other professionals to work collaboratively to optimise outcomes for the client.

Let's review some of the implications from long Covid that we might need to consider during the planning of an advanced clinical massage programme.

With long Covid, the damage is done. It is possible that the individual has medical evidence, such as scans, lung X-radiographs, blood test results, etc, that show actual tissue damage. Some of these test results for organ damage might be less clear if SARS-CoV-2 has affected the brainstem or central nervous system. This might be because there is a neural component to the dysfunction.

Equally we might be seeing clients who have not even had a positive test result for Covid-19, yet have the symptoms of long Covid.

We need to consider the impact of any medication a person is having to take to combat the symptoms caused by the effect of Covid-19 infection.

Eccles and Davies state that a person might actually be suffering from multiple syndromes at the same time: post-intensive care syndrome, post-viral fatigue syndrome and/or long Covid syndrome (13*).

We know that many people who are experiencing long Covid were not hospitalised and we need to factor in their thought processes: we can imagine a scenario where someone is thinking, "I wasn't so badly affected that I needed to be hospitalised but I just can't understand why I … feel so tired … struggle with breathlessness … now have diabetes". These are normal psychological processes in response to adversity (12*).

Simplistically, we also know how one symptom can have an effect on another and when there are multiple issues to address where do we start?

What Can We Do When Treating Long Covid?

From a business perspective, we need to perform appropriate risk assessments about clinical practice and work within our code of conduct as identified by our professional associations.

In our work with long Covid clients, the first step will be to take a really detailed consultation and be clear about a client's goals of treatment, which will include asking the following questions.
- Did they have any underlying ailments before Covid-19 infection?
- What symptoms have they experienced since?
- Have they seen any medical professionals for treatment?
- Are they on any medication?
- What were their activity levels like before Covid-19?
- What are their activity levels like now?

Consider using email or online client booking software to gain answers to these questions as part of your consultation form process in advance of an appointment. This will help clients who are struggling with fatigue and brain fog by allowing them the opportunity to answer questions in their own time.

Getting this information in advance of the clinic appointment will help you to identify areas that need further assessment or medical clearance before treating. Depending on a person's long Covid symptoms once you have the consultation form details, a video call to perform some initial assessment may be helpful.

Once at clinic, most of the preparatory work for treatment will have been undertaken and a shorter appointment time might be appropriate for the client. However, from a business perspective, the client may benefit from a shorter treatment time but the overall work from a therapist's perspective is probably in excess of a clinical hour's work.

IT IS ESTIMATED OVER 1 MILLION PEOPLE IN THE UK ARE LIVING WITH LONG COVID

You might, therefore want to review how you are charging for your appointments: do you need to consider splitting your costs to separate out consultation and treatment costs?

During the consultation, Fairweather and Mari suggest that when treating a client with chronic pain identifying which one of their multiple issues they would like addressed during the treatment not only helps empower the client in the treatment process but makes them feel listened to, builds a therapeutic alliance and taps into the psychological aspect of treating a client yielding better results (11). The following are some questions that could be used during the consultation process that will really help benchmark the client's current status and give you something concrete to measure changes against so that you can gain some ideas of the efficacy of treatment.
- You have multiple areas that are causing you some difficulties, which one is the most problematic one for you that you would like us to work on and improve?
- On a scale of 1 (low) to 10 (high) where would you say your pain levels are now?
- Are there any particular movements that are challenging for you right now?

Werner provides an overview of complications of Covid-19 on various body systems and the implications to treatment for massage therapists. This article merits reading in its own right for many therapists returning to work with Covid-19 clients and so a link is provided here: https://bit.ly/3pzd6FN (14*).

Once a thorough assessment and consultation has been performed, what would be a cause for concern as treatments progress is the development of new symptoms such as: breathlessness, loss of sensation

or power, headache, confusion, heart palpitations and chest pain. These would necessitate immediate investigation and referral to a GP or A&E (Video 1). From a massage perspective any new skin rashes or blisters could be indicative of clotting issues and medical clearance before treatment is advised.

Breathwork

It is known that people who have been ventilated can have some cognitive impairment but some problems with memory loss are also being experienced by people who had Covid within the community. This might be related to low levels of oxygen (hypoxia) experienced by people who were not hospitalised but managed their symptoms at home [Video 2 (15*)]. See Further Resources 1 and 2 for more information on the effects of Covid-related hypoxia (https://bit.ly/2R2Zaag) and post-Covid rehabilitation management (https://bit.ly/3p1zGqm).

For symptoms such as anxiety, brain fog or fatigue some gentle breathing exercises may be hugely beneficial. Research on patients diagnosed with postural orthostatic tachycardia syndrome has also shown the benefits of breathing exercises on managing their symptoms (16*).

Covid-19 may cause dysfunctional breathing patterns so getting clients to engage with diaphragmatic breathing and optimising that may help with reducing some of these other symptoms also (17*).

The importance of optimal breathing during activities has been advocated for years. For long Covid clients, exercise where the effort to perform a task requires breath holding needs to be avoided. This will minimise risk of increasing fatigue and also possible stroke (18*).

Crucially though, with chronic pain conditions such as ME/CFS – and let's put long Covid in this category as well since it has many overlaps with a variety of post-viral syndromes – a key phrase used by Fairweather and Mari is 'less is more' (11). For these clients, do not overdo it. Their autonomic nervous system is easily overloaded and there is a balance to maintain between treating and overtreating these clients: our enthusiasm to help may inadvertently create a temporary worsening of symptoms. So, spend time on techniques such as breathing, after all, if you can't breathe how can you expect to do anything else!

Video 1: Post-acute Covid-19 advice and rehabilitation: long Covid recovery guidance (Courtesy of YouTube user The Physio Channel) https://www.youtube.com/watch?v=zUFS_SAkovc

Video 2: Professor Lynne Turner-Stokes in RSM COVID-19 Series | Episode 32: Rehabilitation after the viral infection (Courtesy of YouTube user The Royal Society of London Medicine) https://www.youtube.com/watch?v=KW1Gdw9D_Pk

Video 3: TEDxAdelaide: Lorimer Moseley – Why things hurt (Courtesy of YouTube user TEDx Talks) https://www.youtube.com/watch?v=gwd-wLdlHjs

Heat/Cold Therapies

The use of heat needs to be assessed carefully. If a client has any pins and needles or loss of sensation arising from neuropathy since Covid-19, careful evaluation of risk versus benefit needs to be made before using hot/cold therapies.

Many therapists use heat during treatment. Hot stones, heated underblankets and wheat-bags can dilate blood vessels and combined with the focus of the treatment lead to a reduction in blood pressure. Therefore, caution should be used when treating clients who experience dizziness, lightheadedness and/or postural hypotension dysfunction (orthostatic intolerance).

Getting long Covid clients with orthostatic intolerance to squeeze and relax their hands and legs before sitting up may help stimulate the circulatory system to prepare for an adjustment in position. Once seated, a glass of water may also help to minimise any postural orthostatic intolerance thereby reducing any symptoms before the client leaves the clinic.

Adjustment of Manual Pressure During Treatment

Massage has been shown to be effective in reducing stress and anxiety in many studies (19,20*,21,22*). Adapting pressure to the individual needs of the client will also have to be taken into consideration to maximise the benefits for the autonomic nervous system.

Diego et al. found that moderate pressure exerted a better effect on reducing stress measurements than light pressure (19). This study potentially has relevance in the treatment of long Covid clients with heart-related issues as it demonstrated relaxation of the heart muscle using EEG assessment. So, depth of pressure and rhythm of each stroke could be factors to review with each client.

Research on chronic pain has shown that in many instances the stimulation of neural pathways is hypersensitive to stimulation, whether a threat or not (Video 3). Activation of certain neural connections can lead to a disproportionate response from the brain, increasing pain. We sometimes see this when treating clients with fibromyalgia when even gentle work can have a profound effect. So, evaluating your client's response to

hands-on work will be an ongoing part of consecutive treatments.

For many, not only might this be the first time they have received a massage it could also be the first time for many months that they have had listening touch applied to their body. This in itself could lead to significant emotional release and we need to realise that this could also be overwhelming to them.

Coagulopathy and the Skin

As many manual therapists work directly on the skin, a contraindication to treatment would be the presence of any skin reactions such as urticaria, lace type patterning of the skin, blisters, Covid toe, etc. Some of these could be an ongoing histamine response in the body as a result of the excitatory immune response or as a reaction to some of the medication taken to combat Covid-19 (23*).

The first priority would be to assess if any presentation of skin symptoms are a local or global contraindication to treatment. If the client has not had these evaluated medically then err on the side of caution and refer back for medical review before commencing treatment. There is a risk that some skin issues are indicators of increased blood coagulopathy and in severe cases in acute Covid-19 infection, these can appear within 5 days before death (24*).

Secondly, if the rash has been present for a long time, has the client been able to undertake any cardiovascular activities without adverse effects (chest pain, leg pains, swelling, etc)? These could indicate ongoing clotting problems that need to be medically assessed (25*).

A client that presents with a history of clots arising from their Covid experience might still be on anticoagulants, usually for at least 3 months. Again, medical clearance is advised before treatment.

Next, we might need to review the medium we use in treatment: wax, oil, water-based lubricant or no lubricant. A client whom we saw pre-Covid might experience some increased sensitivity to certain products post-Covid. This might not be just to the skin but possibly could include altered sense of smell, such as parosmia, which could affect their treatment experience.

> LONG COVID IS WHEN SIGNS AND SYMPTOMS THAT DEVELOP DURING OR FOLLOWING AN INFECTION CONSISTENT WITH COVID-19, CONTINUE FOR MORE THAN 12 WEEKS AND ARE NOT EXPLAINED BY AN ALTERNATIVE DIAGNOSIS (1)

Stretching and Strengthening Exercises

For many long Covid clients, one of their chief goals is to restore their energy levels so that they do not experience the fluctuations in fatigue that are so common.

Post-exertional fatigue is sometimes accompanied by a drop in blood pressure (orthostatic hypotension) and/or tachycardia as well as feelings of lightheadedness, breathlessness, etc. This is in response to physical over-activity and is different to fatigue, which almost inhibits any type of exertion happening. Patients might also experience post-exertional malaise (PEM), which is when the onset of symptoms occurs usually 24 hours or more after the activity and can last for days, weeks or months (26*), and is disproportionate to the activity.

This can be frustrating for the individual concerned but given that fatigue is such a prevalent after-effect of Covid-19, it needs to be addressed in the development of treatment protocols for long Covid clients.

For clients with orthostatic intolerance, consider strength training exercises that can be undertaken while horizontal to start with before getting them into upright positions (27*).

Studies on the effects of cardiopulmonary exercise testing on patients with ME/CFS (28*,29*) have found consistently lower performance in this cohort of patients than in control groups.

Turner-Stokes states that an exercise programme for long Covid patients should not be undertaken without adequate supervision until their pulmonary and cardiovascular status is known [Video 2 (15*)]. Liaising with clients about what their current activity levels are and how that impacts upon them afterwards will be necessary to devise appropriate exercises for them. If this is not within your scope of practice or if your client is experiencing new breathing or heart-related dysfunctional symptoms then a referral back to their GP is advised to ensure there is no new underlying issues arising from long Covid.

NICE guidelines reflect what has been learnt from working with ME/CFS patients and the approach of graded exercise is abandoned in favour of adopting a more person-centred approach to improving physical, mental, cognitive and emotional wellbeing (30*,31*).

VanNess suggests that for moderately affected ME/CFS patients, a guideline used to monitor heart rate, activity and fatigue levels is to evaluate resting heart rate (let's assume it is 85 beats per minute), and do not exceed 15 beats above normal resting heart rate initially (so 100 beats per minute) when undergoing activities (32*). This could be equivalent to just standing to make a cup of tea. An alarm can be set as a trigger for the client to rest and lower their heart rate.

This simple approach has been used successfully to prevent PEM (32*). It might be a useful guideline to start using with long Covid clients for managing their own fatigue levels and it gives them a baseline from which to start their own rehabilitation successes.

Suggestions for Self-Care Advice

The Jing method of treatment acknowledges that the client plays an important role in their own recovery. This is clearly advocated for in teaching clients some appropriate self-care (11). So, what guidelines could be safe suggestions for long Covid clients?

Shepherd suggests that individuals with long Covid use strategies

BE AWARE OF ANY SKIN ISSUES THAT MIGHT INDICATE INCREASED BLOOD COAGULOPATHY AND REFER THE PATIENT IF NECESSARY

adopted from his work with ME/CFS (33*):

- Plan your activities not just for the day but the week ahead.
- Prioritise what needs to be done.
- Delegate any tasks to friends and family to help manage your tasks.
- Explaining to family and friends why you need some support for a while will hopefully lessen the strain on yourself.

Keeping an activity log can be a useful strategy to see if there are any triggers that lead to delayed fatigue in clients. When an individual is able to have a regular routine that they can maintain, at that point consider adding a new activity/task and monitor it.

Recording their activities could have a positive psychological effect as it can show improvements that might not otherwise be measured.

In addition, combining this with journaling could enhance the benefits. Francis and Pennebaker's study on journaling showed that not only did this process help with the processing of events but it led to decreased blood pressure and reduced work absenteeism (34). Similar benefits in wellbeing have been seen among nurses (35*). Although no studies were found relating to Covid-19, it is an easy suggestion as a self-care tool that might be helpful to some clients.

For individuals who are suffering from brain fog, cognitive impairment, fatigue, etc, don't underestimate the effort required to use smartphones, tablets and computers. Prioritise which tasks, including electronic ones, are needed.

Cognitive learning can be aided by suggesting tasks such as colouring in, puzzle books, jigsaws, board games, etc (36*).

A self-care suggestion for long Covid clients with breathing difficulties, brain fog or anxiety could be to join a choir as a study undertaken by the English National Opera (37*) showed that singing led to benefits in breathing and wellbeing. Not only will this help with breathwork but also provides an opportunity for social interaction.

Referral to a dietician or nutritionist might be advisable. Clients with a loss, or distorted, sense of smell and/or taste can experience decreased appetite and weight loss.

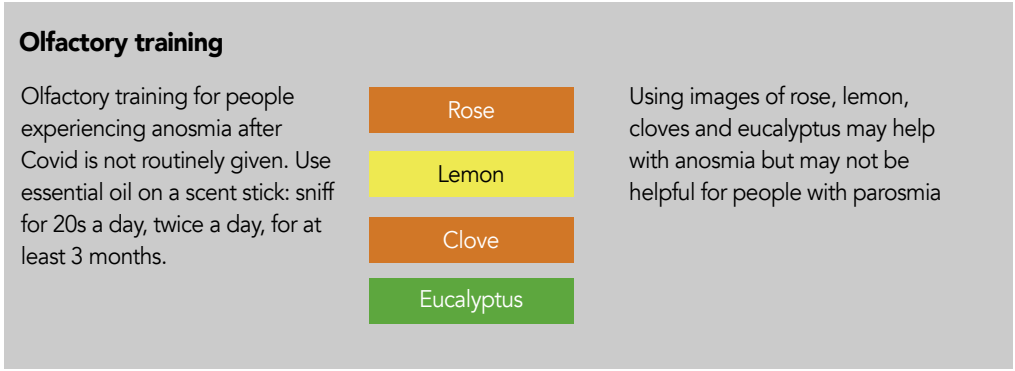
Maes and Twisk identified a number of nutrients deficits in their study on ME/CFS patients, such as zinc, coenzyme Q10 and omega 3 (38*). These are some nutrients that contribute to many anti-inflammatory processes so addressing any nutritional imbalances could be beneficial for the long Covid client.

Some foods also trigger histamine responses in the body thereby increasing inflammation. However, just advising a client to try a low histamine diet is insufficient as these diets are nutritionally lacking. Currently, advice on diet for long Covid is very person-centred and there is no specific Covid-related advice.

Whitcroft and Hummel suggest olfactory training as a potential way of relearning a sense of smell (Fig. 3) (39*). This process commonly uses rose, lemon, cloves and eucalyptus oil on scent sticks. These are oils that are commonly found and could be suggested as some self-care for clients. It might also be a strategy to help individuals with parosmia (a distorted sense of smell) along with some visualisation techniques, although there is no research available as yet to indicate if this could be effective.

Finally, there are many long Covid self-help groups online. These can be a great support network to people enabling them to feel they are not alone experiencing these symptoms. It also allows people to discuss their symptoms in a non-medicalised well with people who have similar experiences.

Figure 3: Outline of olfactory training Sourced Whitcroft KL, Hummel T. Olfactory dysfunction in Covid-19: diagnosis and management. JAMA 2020;323(24):2512–2514 (39)



What Happens Next?

Our understanding of long Covid is still in its infancy. There are some correlations with other pathologies and viruses but being clear about similarities and differences that give Covid-19 its unique set of characteristics is still a learning curve that we are on.

Many therapists will have a huge variety of self-care techniques that can be delivered online or in clinic. With each client we will be selecting the tools to meet the needs of that individual. We should remember that as science strives to devise the best treatment programmes to help long Covid, we know that there is never a 'one size fits all' approach. This will also apply to us in clinic.

Just as the medical world is adopting a multidisciplinary approach to treating long Covid, this is something we too should embrace. Know our individual strengths and find others with relevant skills to help support our clients.

Covid-19 may herald new insights

for many post-viral syndromes and ME/CFS as the science tries to understand the impact of SARS-CoV-2. In the meantime, we embark on our own professional journey into treating this new pathology.

Further Resources

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KEY POINTS

- Long Covid is the term used to describe individuals who have had Covid-19 and are still experiencing symptoms more than 12 weeks later.
- Consider ways that clinic appointments can be adapted to help benefit long Covid clients.
- Long Covid clients that experience new symptoms of breathlessness, loss of sensation or power, headache, confusion, heart palpitations or chest pain should be referred to a GP or A&E.
- Be aware of the cautions regarding new symptoms but also understand that for existing chronic symptoms adopting a biopsychosocial approach to treatment and working within the client's tolerances will be beneficial.
- From your client consultation, understanding which long Covid symptoms are most problematic for the client will help give a framework to your treatment plan.
- Be prepared for the emotional relief that listening touch could give to your clients but understand that for some clients, the protection offered by the 'Stay at Home' approach could increase anxiety.
- Giving some self-care suggestions to clients to help them manage their symptoms can be empowering.
- One of the most powerful tools available to us as massage therapists will be to help clients with breathing techniques. Breathwork can help calm the autonomic nervous system, reduce anxiety, improve memory, help reduce symptoms of postural orthostatic tachycardia syndrome.
- Informing clients about pacing of activities is a strategy that may help clients manage their energy levels.

DISCUSSIONS

- The medical field has worked collaboratively to try to understand and treat Covid-19. How can we support long Covid clients and work with other professionals within medical and complementary fields to continue this holistic approach?
- What skills/techniques/resources do you have in your toolbox to devise a bespoke treatment for long Covid clients?
- What information could you prepare to provide your long Covid client with some self-care strategies?

Want to share on Twitter?

Here are some suggestions

Tweet this:

1. A significant number of people still experience symptoms more than 12 weeks after Covid infection https://bit.ly/3x6FhyC
2. Long Covid patients often experience a cluster of symptoms usually including fatigue and dyspnoea https://bit.ly/3x6FhyC
3. Gentle breathing exercises may benefit long Covid symptoms such as anxiety, brain fog and fatigue https://bit.ly/3x6FhyC
4. Adapt manual therapy pressure to each client to maximise benefit to the autonomic nervous system https://bit.ly/3x6FhyC
5. Be aware of skin issues in long Covid patients indicating increased blood coagulopathy and refer on https://bit.ly/3x6FhyC

THE AUTHOR

Susan Harrison BTEC L6, SMA qualified as a massage therapist in 2008 and completed her BTEC L6 Advanced Clinical Massage at Jing Advanced Massage Training, Brighton, in 2012. Since then, she has worked in private clinics in Woking and at various multinational companies. In 2017 she started teaching at Jing and is now the programme co-ordinator for the BTEC L6.

Deeply passionate about helping treat chronic pain, Susan has completed many courses in manual therapy, including ScarWork, Myofascial Release and Active Isolated Stretching and Strengthening; and a variety of rehabilitation courses including Anatomy in Motion, as well as Jing's Exercise Rehabilitation course. In 2020 she joined the Sports Massage Association (SMA).

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