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## OF HEALTH BUSINESS AND TECHNOLOGY

### Lecture 07 — Trigger Points

Student Handout · RU RMT 20 Pathological Treatments · Ruhani College · Registered Massage Therapy Diploma Program

*How to use this handout: it follows the lecture in the order it is delivered, so you can annotate it as we go rather than copying slides. Everything examinable in this lecture is here. Work through the review questions at the end without looking back, then check them against the answers.*

#### Learning outcomes

By the end of this lecture you will be able to recognise active and latent trigger points, screen for the conditions they mimic, and release them safely.

**Explain the mechanism** — Describe how local ischaemia and oxygen debt create a self-sustaining nodule.

**Read referral patterns** — Distinguish focal from referred pain, and TrP pain from neurological pain.

**Screen the dangers** — Recognise when a presentation could be a thrombus or systemic disease — and stop.

**Release, don't aggravate** — Apply trigger point pressure release without provoking a flare-up.

#### Definition — What is a trigger point?

A trigger point (TrP) is a localised area of muscle hypertonicity that radiates pain in a predictable pattern. Clients often call them “knots” — the more correct term is a nodule.

**Localised hypertonicity** — A small, intensely tight spot within a muscle — a palpable nodule, not the whole muscle.

**Predictable referral** — Pain radiates from the point in a pattern characteristic of the muscle harbouring it.

**Nodule, not “knot”** — “Knot” is the lay term; describe and chart it as a nodule.

*Source: Definition per Rattray & Ludwig (2000), Clinical Massage Therapy and Travell & Simons, Myofascial Pain and Dysfunction: The Trigger Point Manual.*

#### A Key Distinction — Active vs latent trigger points

Not every trigger point hurts on its own. Telling active from latent points shapes both your assessment and what the client feels.

- An active trigger point waiting to happen.
- Causes exquisite local and radiating pain, even at rest.
- A latent point can flip to active quickly if ischaemia persists.
- The pain signals accumulate until the point “ignites.”

**Latent** — — Does not refer pain and is not painful — unless palpated.

**Active** — — Develops in persistently restricted or weakened muscle.

*Source: Active / latent classification per Travell & Simons, Myofascial Pain and Dysfunction: The Trigger Point Manual.*

### Understanding Trigger Points

*A trigger point is a tiny patch of muscle starved of oxygen and locked in contraction. Understanding that cycle explains both the pain pattern and the cure.*

#### General Information — A self-feeding cellular cycle

At the root of a trigger point is a local energy crisis. A muscle region runs short of cellular energy (ATP) because ischaemia restricts its blood supply — and the resulting sustained contraction restricts blood flow further, deepening the shortage.

**Energy crisis** — Insufficient ATP reaches a muscle region — it cannot power normal relaxation.

**Local ischaemia** — Restricted blood flow starves the area of oxygen.

**A vicious loop** — Sustained contraction restricts blood flow further — worsening the ATP shortage.

#### Contributing Factors — What sets a trigger point up

Trigger points rarely appear at random. A range of mechanical, systemic and lifestyle factors prime the muscle.



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**Mechanical** — Poor posture, repetitive motion, and compensation from injury, accident or prolonged inactivity.

**Systemic** — Nutritional deficiency and chronic infection that lower tissue resilience.

**Lifestyle & mood** — Sleep deprivation and depression that lower the threshold for pain and tension.

### Where They Occur — Common sites

Trigger points usually form in skeletal muscle — most often the big postural and jaw muscles — though they can occur in organs and bone.

**Shoulder girdle** — The trapezius and rhomboids — the superior trapezius is the classic, most common site.

**Neck & jaw** — The sternocleidomastoid (SCM) and the masseter.

**Beyond muscle** — Less commonly, trigger points can occur in organs and bone.

### How Common, and With What — Associations & prevalence

Trigger points are nearly universal in adults — latent or active — and travel in the company of several familiar conditions.

**Common in adults** — Most adults harbour trigger points, latent or active, at some point; they are rare in children.

**Frequent company** — Often associated with chronic headaches, tendonitis, bursitis and arthritis.

**And stress** — Emotional stress is a frequent companion and aggravator.

### Pathophysiology — Every cell needs oxygen

To function, every cell needs oxygen delivered by the bloodstream. When supply is cut off, the tissue responds with pain and impaired function. In a trigger point the cause is subtle and cellular, but the principle is the same: starve the tissue of oxygen and it suffers.

**Oxygen delivery** — Blood carries the oxygen every working cell depends on.

**Supply cut off** — Restricted flow produces pain and impaired function in the affected tissue.

**Subtle & cellular** — In a trigger point the shortfall is microscopic — a small, locked region of muscle.

### The Mechanism — How a nodule forms

The nodule builds through a repeating chain. A small fragment of muscle contracts and pulls a band ever tighter, blood flow falls, oxygen debt and ischaemia set in, and the starved, contracted tissue floods the region with pain.

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**Fragment contracts** — A small fragment shortens and pulls a band of muscle progressively tighter.

**Blood flow drops** — Tightness reduces flow to the constricted region — oxygen debt sets in.

**Ischaemia & contraction** — Local ischaemia drives an involuntary, painful contraction.

**Pain floods out** — Signals fill the focal point and the referred zone of that muscle.

*Source: Energy-crisis / integrated hypothesis per Travell & Simons, Myofascial Pain and Dysfunction: The Trigger Point Manual.*

### The Signature Feature — Focal vs referred pain

What makes a trigger point distinctive is that the pain is felt away from the point itself. Each muscle has a characteristic referral zone — and the referred pain is often more prominent than the focal pain, which is why TrPs are so often misattributed.

— Reproduced or intensified by palpation.

— Felt at a distance, in a predictable pattern for that muscle.

— Often the chief complaint — “it hurts over here.”

— Mapped referral patterns help you trace it back to the source.

**Focal pain** — — Felt directly at the nodule under your finger.

**Referred pain** — — Dull, aching, throbbing or burning at the point.

*Source: Referral patterns per Travell & Simons, Myofascial Pain and Dysfunction: The Trigger Point Manual.*



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### Recognising One — What you are feeling for

There is no laboratory test — diagnosis is in your hands. You are feeling for a specific cluster of findings within the muscle.

**A taut band** — Hypertonicity palpable as a taut band running through the muscle.

**A nodule** — A palpable nodule, usually in the muscle belly — the trigger point itself.

**Reproducible referral** — Pressure reproduces the client's familiar referred pain — confirming the source.

### Overall Signs & Symptoms · 1 of 2 — What your hands find

**Taut band & nodule** — Hypertonicity as a taut band, with a palpable nodule in the muscle belly.

**Local twitch** — A palpable twitch when the nodule is stimulated by a snapping palpation.

**The jump sign** — A dramatic response — wincing or pulling away — on direct trigger point palpation.

### Overall Signs & Symptoms · 2 of 2 — What the client reports

**Radiating pain** — Shooting pain radiating from the focal point — which may not seem directly related.

**Quality of pain** — Dull, aching, throbbing and burning pain at the focal point.

**Compensation & timing** — A visible holding pattern in compensators; pain at rest or with activity, often worse with activity.

## Presentation & Assessment

*Releasing a trigger point is everyday massage. The skill is in the screening — telling a TrP from nerve pain, and from the rare presentations that must never be touched.*

### What Massage Can Address — Squarely within our scope

Trigger points are core massage territory. Relieving hypertonicity is the centrepiece of most treatment, and the surrounding consequences respond to basic skills.

**Relieve hypertonicity** — The centrepiece of treatment — addressed with many traditional techniques.

**Compensatory pain** — Ease the compensatory hypertonicity and pain the trigger point creates around it.

**Flush the tissue** — Clear accumulated cellular debris and metabolic waste with basic massage skills.

*Source: Treatment effects consistent with Rattray & Ludwig (2000), Clinical Massage Therapy.*

### Therapist Assessment — Build a baseline from the story

Questions about general health and activity set a baseline. The story often points straight to the trigger point — a recent accident with compensation, prolonged inactivity, a desk job, or pain that “won’t go away and shoots from here to here.”

**Health & activity** — General state of health and activity level give you the baseline.

**The pattern** — A recent accident and compensation, a desk job, or pain that shoots from point to point.

**Listen for the clue** — “It burns and shoots from here to here” is the classic trigger-point story.

### A Subtle Distinction — Trigger-point vs neurological pain

Trigger-point pain and nerve pain use overlapping words, which can muddy your assessment. Describe TrP pain carefully — and lean on referral-pattern references to tell them apart.

**Sounds like a trigger point** — — Dull, aching, nagging, steady, throbbing, sometimes burning.

**Sounds neurological** — — Follows the muscle's characteristic referral map.

— **Reproduced by palpating the nodule.** — — Follows a nerve's distribution, not a muscle referral zone.

— **Shooting, tingling, numbness, burning.** — — Burning overlaps both — so don't rely on one word.

*Source: Referral-pattern differentiation per Travell & Simons, Myofascial Pain and Dysfunction: The Trigger Point Manual.*

### The Critical Screen — Is it a trigger point — or a clot?

A trigger point and a blood clot can be confused by the inexperienced — and the consequences of getting it wrong are severe.

If swelling, redness or heat accompanies the radiating pain, halt all work — anywhere on the body — and refer. Working a presumed nodule can inadvertently move a thrombus into an embolus. When in doubt, stop and send the client to a physician.



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*Source: Thrombus / embolus caution per Rattray & Ludwig (2000), Clinical Massage Therapy (contraindications & cautions).*

### WHEN IT WON'T RESOLVE

Persistent points are a red flag

Most trigger points respond to treatment. One that does not is telling you something — and deserves a careful second look, not more pressure.

**Reassess the history** — For points that don't resolve after several sessions, revisit the medical history closely.

**Consider the systemic** — Persistent localised muscle pain can signal cancer recurrence or other systemic disease.

**Look for a perpetuator** — A perpetuating factor or another pathology may be blocking resolution.

**Refer on** — When therapy isn't working, refer the client for further evaluation.

*Source: Referral guidance consistent with Rattray & Ludwig (2000), Clinical Massage Therapy.*

### Treatment Planning

*Most trigger points never reach a doctor. That makes the RMT's judgement central — clear goals, a technique that deactivates rather than aggravates, and knowing when to refer.*

#### Treatment Options — How trigger points are managed

Few people seek medical care for muscle tightness alone. Most self-treat — sometimes counter-productively — and escalate only when pain becomes intolerable.

**Self-treatment** — OTC creams or patches, anti-inflammatories, hot or cold packs — and, mistakenly, resting the area.

**If pain persists** — A sports-medicine physician or physiotherapist may use non-invasive, conservative techniques.

**Massage's place** — Skilled soft-tissue work is one of the most effective conservative options.

#### Common Medications — Rarely needed

Medication is not usually prescribed for trigger points. It is reserved for extreme cases of unrelenting hypertonicity.

**Usually none** — For ordinary trigger points, medication is not typically prescribed.

**Extreme cases only** — Muscle relaxants for multiple, intolerable points — e.g. cerebral palsy, partial paralysis, ALS.

**Note what they take** — Record any relaxants or anti-inflammatories in your history — they affect treatment.

#### Therapeutic Goals — Reasonable aims for the RMT

**Quiet pain & tone** — Decrease pain and hypertonicity in both the immediate and the referred regions.

**Perfuse & mobilise** — Increase circulation to the affected muscle and restore range of motion.

**Reset & relieve** — Restore normal resting length and reduce the secondary stress and tension.

*Source: Treatment goals consistent with Rattray & Ludwig (2000), Clinical Massage Therapy.*

#### The Guiding Principle — Deactivate, don't aggravate

Trigger-point work cuts both ways. The same point can be calmed or inflamed depending on technique — and the difference is precision, not force.

Improper technique stimulates trigger points; it does not deactivate them. Move the muscle through range, use precise pressure, and choose techniques that avoid a flare-up.

#### Why They Come Back — Perpetuating factors

Releasing a trigger point is only half the work. If the factor that perpetuates it is left in place, the point reforms — so part of treatment is finding and addressing what keeps feeding it.

**Mechanical perpetuators** — Ongoing poor posture, repetitive load and unresolved compensation patterns.

**Systemic perpetuators** — Nutritional deficiency, chronic infection and other ongoing physiological stressors.

**Address the cause** — Self-care and posture change are what stop the point reforming after release.

*Source: Perpetuating-factor concept per Travell & Simons, Myofascial Pain and Dysfunction: The Trigger Point Manual.*



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### Massage Session Frequency — How often, and when to refer

Trigger points can form and resolve quickly, but stubborn ones linger for weeks or months and need consistent treatment plus home-care. Most people notice relief within about four to six visits.

**Severe cases** — 60-minute sessions twice a week until resolution.

**Normal cases** — 60-minute sessions once a week for ordinarily painful presentations.

**No relief by 4–6?** — If there is no resolution, suspect a perpetuating factor or other pathology — refer on.

### Massage Protocol

*The core technique is gentle, patient and precise: meet the tissue at its barrier, wait for it to yield, and flood the region with fresh blood — never dig.*

#### The Core Technique — Trigger point pressure release

Trigger point pressure release applies slowly increasing, non-painful pressure over the point until you meet a barrier of tissue resistance. Hold until the barrier releases, then increase to the next barrier — progressively easing the tension and tenderness away.

**Meet the barrier** — Apply slow, non-painful pressure until you feel the tissue resist.

**Wait for the release** — Maintain contact until that barrier softens and yields.

**Advance gently** — Increase to reach the next barrier — repeating until the point lets go.

*Source: Trigger point pressure release per Travell & Simons, Myofascial Pain and Dysfunction: The Trigger Point Manual. See also Rattray & Ludwig (2000), Clinical Massage Therapy.*

#### How To Approach the Point — Respect the tissue — don't dig

How you arrive at the point matters as much as the pressure itself. Dig in, and the body constricts and shuts down; approach with respect, and the tissue opens.

**Don't dig** — flood the region with fresh blood. A slow, respectful approach releases the constriction, removes the ischaemia, flushes waste, eases pain and restores function and range.

#### The Protocol Toolkit — What you bring blood with

Pressure release sits inside a wider sequence. The aim throughout is to bring blood in and carry metabolites out — simple methods, no instruments needed.

**ROM before & after** — Range of motion shows initial restriction, then the post-treatment improvement.

**Bring blood in** — Heat, effleurage, petrissage and intermittent deep stroking and kneading perfuse the area.

**Fingertip pumping** — Medium-pressure fingertip pumping at the nodule's centre replaces elbow-to-the-bone pressure.

*Source: Technique sequence consistent with Rattray & Ludwig (2000), Clinical Massage Therapy and Travell & Simons, Myofascial Pain and Dysfunction: The Trigger Point Manual.*

#### Getting Started — Be patient, and read the tissue

This protocol gives no fixed durations — deliberately. Trigger-point work is led by what the tissue is doing, so train yourself to stay keenly aware as you go.

**No set timings** — Let the tissue's response, not a clock, decide when to move on — have hot packs ready.

**Read everything** — Track depth, tissue response, spasm or flinching, the band's width, "Rice Krispies," and whether the point is softening.

**Don't overwork** — Spread your time across the steps, but spend the most directly on the trigger points — never overwork the tissue.

#### Self-Care & Home-Care — Keeping the region flushed

Stubborn or long-standing trigger points need several sessions — and home-care is essential between them. Without it, the fibres simply re-constrict.

**Keep it flushed** — Home-care keeps the region flushed with blood and prevents re-constriction of the fibres.

**Gentle self-release** — Self-applied pressure and movement, taught and within tolerance, sustain the gains.



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**Consistency wins** — Frequent, consistent treatment plus homework is what resolves a persistent point.

### **Contraindications & Cautions · 1 of 2 — Pressure, bleeding & the unexplained**

**Anticoagulants & aspirin** — Daily aspirin or anticoagulants risk serious bruising from any prolonged deep work.

**Watch the non-resolving point** — Persistent localised pain can indicate cancer recurrence or systemic disease — reassess.

**Mind your vigour** — Over-zealous work at a focal point can leave the client very sore, or in pain, the next day.

**Monitor depth** — Keep monitoring the depth and vigour of your work throughout the session.

*Source: Contraindications per Rattray & Ludwig (2000), Clinical Massage Therapy.*

### **Contraindications & Cautions · 2 of 2 — When to stop, and what to avoid**

**Possible thrombus — halt** — Swelling, redness or heat with radiating pain: stop all work and refer to a physician.

**No heat on inflammation** — If the trigger point is injury-related with local inflammation, heat is contraindicated.

**No stretch on overstretch** — If the point is secondary to an overstretch injury, avoid passive and active stretching.

**Ice can worsen burning** — Applying ice to a “burning” trigger point may make the symptoms worse.

*Source: Cautions per Rattray & Ludwig (2000), Clinical Massage Therapy and the lecture protocol.*

### **Key takeaways — Carry these into the clinic**

**Referral is the signature** — A trigger point refers pain in a predictable pattern — often felt away from the nodule.

**Active vs latent** — Latent points hurt only when pressed; active points refer pain even at rest.

**Screen for the clot** — Swelling, redness or heat with the pain means stop everything and refer.

**Release, don't dig** — Meet the barrier, wait for the release, flood with blood — precision over force.

**Address perpetrators** — Find what keeps the point coming back, or it will reform after every release.

**Home-care seals it** — Consistency and self-care between visits are what make resolution stick.

### **References and further reading**

- Rattray, F. & Ludwig, L. (2000). Clinical Massage Therapy: Understanding, Assessing and Treating Over 70 Conditions. Toronto: Talus Inc. — the myofascial trigger points chapter: assessment, treatment goals, technique, and contraindications including the thrombus caution.
- Travell, J.G. & Simons, D.G. Myofascial Pain and Dysfunction: The Trigger Point Manual. — active vs latent trigger points, referral patterns, the energy-crisis hypothesis, and trigger point pressure release.
- Canadian Massage Therapy Council for Accreditation (CMTCA). Competency standards — scope of practice, screening, documentation and referral.

### **Review questions**

*Answer these from memory before checking the answers below.*

1. Define a trigger point and describe what distinguishes an active point from a latent one.
2. Why does a trigger point refer pain to a site away from the point itself?
3. Describe trigger point pressure release and how you judge the pressure applied.
4. What are perpetuating factors, and why do they determine whether treatment holds?
5. How would you distinguish trigger point referral from nerve pain?

### **Answers**

1. A localised area of muscle hypertonicity within a taut band that refers pain in a predictable pattern. An active trigger point refers pain spontaneously and reproduces the client's familiar complaint; a latent point refers only when pressed and is not producing the client's current symptoms.
2. Because the nociceptive input from the point converges with input from other structures at the spinal cord, and the pattern of referral follows predictable, mapped distributions rather than dermatomes or the course of a single peripheral nerve.



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3. Sustained, specific pressure is applied to the point and held while the tissue is monitored for release. Pressure should reproduce the referral at a tolerable level, then be maintained as the tissue softens — not increased to the point where the client guards or holds their breath.
4. They are the postural, ergonomic, occupational, nutritional and psychological factors that keep re-creating the point. Unless they are identified and addressed through client education and self-care, the point returns after treatment.
5. Trigger point referral is a deep, aching, mapped pattern reproduced by palpating a taut band, without true neurological signs. Nerve pain follows a dermatomal or peripheral nerve distribution and is more often described as sharp, burning or electrical, with possible numbness, tingling or altered reflexes and strength.