What you need to know when working with clients who regularly take medication

By Jeannette Vaupel

COURSE DESCRIPTION:
This course offers guidelines on how to minimize the risk of massage aggravating the side effects from medications. It includes information on those medical side effects that can be mistaken for common ailments resulting in inappropriate treatment plans. It includes information on major drug side effects and groups of medications that require special attention.

COURSE OBJECTIVES:
This course provides an overview of the modifications required for massage sessions due to physiologic changes from medications taken by clients. When you finish this course you will be able to:

- Appreciate the need to watch for medications with side effects that require alterations in massage therapy sessions.
- Define ways client assessment helps massage therapists identify side effects and adverse effects of medications.
- Discuss how the reason for taking a medication can guide session planning.
- Describe six ways palpating can detect hidden effects of drugs.
- Give six ways drugs alter a client’s response to massage and the responsible way to adjust the therapy session to address those alterations.
- List six special considerations required for diabetic clients.
- Define seven classes of medications that warrant proceeding with caution for massage therapists.
Have you ever had a client whose condition didn’t improve despite your best efforts?

Or perhaps you’ve seen someone who got bruises after the massage session?

Do you work with diabetics clients with chronic illnesses?

If so, you need to be aware of the role medication plays in the body’s response to massage therapy. This knowledge will help you ensure the timing of appointments, modality and pressure, as well as a client’s safety, are considered when developing a treatment plan.
Drug Categories, Uses and Cautions

Antidiabetics: **INSULIN.** Insulin is used to treat hyperglycemia (blood sugar higher than 100 mg/dl) from Type 1 diabetes, the most common metabolic disease in the world. Insulin from the beta cells in the pancreas’ islets of Langerhans is required to allow blood glucose into body cells. It’s also an anabolic hormone necessary for tissue growth and repair.

Insulin must be injected or administered by a pump device. The protein molecules in insulin are broken down in the gastrointestinal tract before they can get to the bloodstream, so cannot be taken orally. The local area of injection is contraindicated because massage can increase the absorption rate (massage therapists should note where insulin was last injected). Bruised areas warrant light work only. Long-term, frequently used sites may have hard fascial tissue that can be addressed by applying friction and vibration to loosen.

**SIDE EFFECTS:** Too much insulin causes hypoglycemia, also known as insulin shock. Symptoms include dizziness, confusion, abnormal drowsiness, weakness, nausea, hunger, tremors, blurred vision, cold clammy skin, slurred speech, sweating and fainting. Other side effects can include bruising or hardening of skin at injection sites. If you notice symptoms of hypoglycemia, stop the massage immediately.

Ketoacidosis, or too little insulin, is the result of fats being used for fuel when glucose is lacking in cells, causing ketone byproducts to change blood pH. A client with too little insulin may have fruity or sweet-smelling breath, or body odor.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** Your clients with diabetes should eat a meal two to three hours before a session (or a substantial snack at least one hour before the session). Ask clients to bring their glucometer to check the blood sugar level before and after the session. The therapist is not allowed to operate the glucometer unless licensed as a registered nurse. A source of glucose should be available at all times when seeing insulin dependent diabetics. Sources include glucose tabs (4–6 chewed for hypoglycemia), 4 ounces of juice or one-half can of regular soda. The therapist should not administer any of these sources. Call 911 if the client is abnormally drowsy and difficult to arouse, confused or symptoms do not resolve after ingestion of oral glucose.

Antidiabetics: **ORAL DRUGS.** There are seven kinds of oral drugs used to lower blood glucose in Type 2 diabetes. The major groups are as follows: Sulfonylureas enhance release of insulin from beta cells in the pancreas. Examples are first-generation Dimelor, Diabinese, Orinase, and Tolinase, as well as second-generation Glucotrol and Micronase. Biguanides increase glucose uptake and use in peripheral tissue cells, especially for obese patients who have insulin resistance. An example is metformin or Glucophage. Starch blockers, introduced in 1995, inhibit an enzyme in the GI tract to delay carbohydrate breakdown and absorption. An example is Precose. Thiazolidinediones were introduced in 1997 to enhance sensitivity of cell membranes to insulin, decrease LDLS and increase HDLs. Examples are Actos and Avandia.

**SIDE EFFECTS:** Glucophage can cause GI cramps, nausea and vomiting, leading to vitamin B12 deficiency, numbness and tingling, depression, tendency to bruise and/or fatigue. Precose can cause abdominal pain and diarrhea. Thiazolidinediones can cause edema, muscle or back pain.

As the profession of massage therapy evolves, as more research is conducted to enhance evidence-based practice, and as more and more clients are seen in clinical/medical settings, the likelihood of encountering clients who are taking one or more medications increases. This article educates practitioners about how they can make well-informed decisions based on appropriate intakes and assessments. From here, you’ll also learn when altering a session might be needed, as well as how to properly evaluate the massage therapy session.
pain, headache, anemia and weight gain. Taking Avandia for more than one year increases the risk of heart attack by 42 percent and heart failure by 109 percent, according to one study. New warnings were released by the FDA in 2010.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** For the new client, have a physician’s prescription on file and start with shorter sessions, carefully monitoring client response to massage so adjustments can be made as sessions progress. For all clients with diabetes, schedule appointments based on peak availability of the drug and verify the client has eaten at the appropriate interval prior to the session. Check for any sensory loss or areas of healing, and inquire about any tingling, numbness, leg cramps or muscle weakness. Ask what their usual blood pressure reading is and when it was last taken. Does the client know the numbers? Additionally, you might want to ask if they’ve had a heart attack or a stroke.

**Drug Interaction Alert:** Taking Diabenese or Glucotrol with NSAIDS, aspirin, ACE Inhibitors, SSRIs or ginseng (among others) can increase the risk of hypoglycemia or insulin shock.

**Skeletal muscle relaxants.** These medications act on the central nervous system to treat acute spasms from inflammation, pain, anxiety or trauma by causing sedation. Examples of drugs used: Soma, Parafon Forte, Remular-S, Strifon Forte, Flexeril, Flexitee, Novo-Cyclodrine, Skelaxin, Robaxin Skelex, Banflex, Flexoject, Flexon, Myolin and Norflex. Oral forms take 30 to 60 minutes to be effective and last four to six hours, except for Flexeril, Flexitee and Novo-Cyclodrine, which last 12 to 25 hours.

**Dantrium** acts on peripheral muscles directly to treat spasticity from multiple sclerosis, stroke, spinal cord injury and cerebral palsy. It takes about five hours to be effective after being ingested, but may take more than one week to show benefit after the initial dosing.

**Other skeletal muscle relaxants** are presumed to act in the spinal cord, lessening neuron activity, lowering the number and severity of flexor muscle spasms, and lessening pain. These drugs are used to treat spasticity for paraplegic or quadriplegic clients who have lesions on the spinal cord from trauma or multiple sclerosis. Examples are Clofen and Lioresal. It can take hours to weeks before beneficial results are realized.

**SIDE EFFECTS:** Clients may experience drowsiness, dizziness, orthostatic hypotension (sudden fall in blood pressure when changing position) and constipation.
IMPLICATIONS FOR MASSAGE THERAPISTS: Central nervous system depression means reaction to compression will be slowed. Massage will add to the sedation effect of the drug. Best strokes to use are the local mechanical (local effleurage, friction, petrissage) or gliding and myofascial techniques. If the client is constipated, include abdominal massage. End the session with tapotement or fast effleurage to bring the client back to alertness, since they could be too relaxed and ungrounded. Remember, they may have low blood pressure when changing position, so help them sit up before you leave the session room when needed.

Anti-Parkinson’s disease: Anticholinergics (parasympatholytics) interrupt the action of acetylcholine at receptors in the parasympathetic nervous system. These drugs are used in the early stages of this disease to reduce involuntary tremors and rigidity from high acetylcholine levels. The most commonly used examples areCogentin, Procyclid and Artane. Additionally, antihistamines such as Banophen, Benadryl, Benylin, Nytol, Banflex, Flexoject, Flexon, Myolin and Norflex can be used.

Note: Cogentin has a duration of action for almost 24 hours in some clients (considered long-acting).

Dopaminergics act in the brain by increasing dopamine, or by enhancing neurotransmission of dopamine. These drugs are used for severe Parkinson’s disease—or when there is not a response to anticholinergics by themselves—to decrease rigidity of muscles. Levodopa is the most effective drug, and is sold as Dopar, Larodopa and Lidopa. Sinemet is often prescribed in tandem. Other drugs which may be tried include Symmetrel, Symadine, Parlodel, Comtan, Permax, Mirapex, ReQuip, Carbex and Tasmar.

SIDE EFFECTS: Clients might display irritability, nervousness, restlessness, headache, agitation/excitement, constipation, sedation, depression, insomnia and disorientation. For clients using dopaminergics, look for dizziness, sleepiness, orthostatic hypotension (low blood pressure when changing position) and constipation.

IMPLICATIONS FOR MASSAGE THERAPISTS: Since muscle cells do not contract and relax normally, muscles can be hypertonic. The best strokes to use are ef-
fleurage and rocking, along with some gentle petrissage if indicated. The relaxing/sedating effects of massage may be heightened, so more stimulating strokes may be necessary, especially to finish the session. Fast effleurage and easy tapotement may help bring the client to an alert state. The client may need assistance getting off the table.

Antibacterials: Penicillins, cephalosporins, tetracyclines, fluoroquinolones, cipro and levofloxacin, sulfonamides, among others.

To massage or not to massage? The general guideline is that if the client is in control of the infection, then massage can be performed. However, if symptoms are severe enough to affect functioning and the infection is in control of the person, do not give massage.

Corticosteroids: Glucocorticoids are given to suppress immune responses and reduce inflammatory responses, like tenderness, heat, redness or edema. Some examples from this category include Vanceril, Betaderm, Cortone, Decadron, Dexacort, Cortef, Depo-Medrol, Prednisol, and Deltasone or other prednisones. Long-term use—longer than two weeks—can cause impaired wound healing, diabetes, peptic ulcers and osteoporosis. When utilized for chronic diseases over a sustained period of time, tissue changes are significant. Connective tissue is weakened, muscle wasting can result, excess adipose tissue is added and bone density can be lessened.

Mineralcorticoids increase sodium and water retention in the kidneys, while increasing secretion of potassium and hydrogen. Florinef is a synthetic version of hormones secreted by the cortex of the adrenal glands, and is used when the client’s body does not produce enough of the hormones on its own.

SIDE EFFECTS: High blood pressure, thromboembolism, bruising readily, weak tissue, insomnia and susceptibility to infections. For clients using mineralcorticoids, edema, high blood pressure, bruising and sweating are possible.

IMPLICATIONS FOR MASSAGE THERAPISTS: Avoid deep tissue massage. Obtaining a doctor’s release before proceeding is a must. Use great caution with petrissage, compression and friction. It is best to opt for gentle, rhythmic effleurage and rocking.

Pain medications: Salicylates are used to reduce fever and inflammation, and to control pain. Aspirin is the number one choice of these most commonly used pain meds. Salicylates easily cross the placenta and show up in breast milk. They act to block the creation of prostaglandins (chemical mediators sensitizing nerve cells to pain) and block prostaglandin E (which increases body temperature), resulting in lowering fever. In particular, aspirin increases blood flow by interfering with the making of thromboxane A2, which causes clumping of platelets to make a blood clot. In the case of inflammation, salicylates give great relief within 24 hours, especially for rheumatoid arthritis and rheumatic fever. Some drug names are Aspergum, Aspercreme cream, aspirin, ASA, Bayer, Ecotrin, Empirin, Teetel, Doan’s, Amigesic and Argesic.

Acetaminophen is used to reduce pain (general, headache, some arthritis, muscle aching, symptoms that are flulike) and reduce fever. Examples in this group are Tylenol, Anacin, Excedrin, APAP, Atasol, Panadol, and Robigesic.

NSAIDS decrease prostaglandin production to fight inflammation, provide pain relief and lower fever. These medications are usually prescribed for osteoarthritis of large joints, rheumatoid arthritis, ankylosing spondylitis, gouty arthritis and painful menses. Examples of these types of drugs include Advil, Aleve, Anaprox, Ansaid, Bextra, Celebrex, Clinoril, Daypro, Feldene, Indocin Motrin, Naprosyn, Nuprin and Robafen.

Narcotic analgesics (derived from opium or synthesized in a lab) are used for severe pain, to reduce anxiety before anesthesia and to suppress coughing. They bind to opiate receptor sites in the central and peripheral nervous systems. After peak levels are achieved, the drug lasts from 2–4+ hours. Drugs include codeine, Demerol, Dilaudid, Durag-
esic, morphine sulfate (MS Contin, Roxanol), and Sublimaze. Morphine is used to relieve shortness of breath due to lungs being filled with fluid, as well as left-sided heart failure, wherein the heart is not able to send out enough blood to meet the body’s needs.

**Mixed narcotic analgesics** have a somewhat lower risk of dependence/addiction, and are used for moderate to severe pain, to lessen anxiety and pain before surgery and during childbirth. Examples of these drugs include Buprenex, Nubain, OxyContin, Stadol and Talwin.

**SIDE EFFECTS:** For aspirin, nausea, gastric bleeding, bruising readily and ringing in the ears can occur. Acetaminophen rarely has side effects, but some significant adverse effects are possible, including jaundice, blood disorders, hypoglycemia and liver damage. Many people unintentionally overdose when they combine a number of preparations that all contain acetaminophen. **NSAIDS** can cause drowsiness, dizziness, headache, back pain, insomnia, fatigue and edema in ankles. Clients using narcotic analgesics might experience orthostatic hypotension (low blood pressure from vasodilation and a change in position), dizziness, drowsiness and constipation. Adverse effects of these medications include depressed respirations, asthma attacks, tremors, euphoria, delirium, palpitations (series of very fast heartbeats, very strong, sometimes irregular) and urine retention. Any of these should be brought to a physician’s attention without delay. Side effects for mixed narcotic analgesics include sedation, light-headedness and euphoria.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** If a topical cream has been applied, avoid the area for a minimum of an hour. **Caution should be exercised with the pressure and depth of all strokes since there is less sensitivity to pain, meaning feedback will likely not be reliable. Toward the end of the session, increase the speed of the strokes and finish with tapotement to alleviate sedation. Ascertain the client is not dizzy when they sit up, assisting as necessary. For those clients using narcotic analgesics and mixed narcotic analgesics, massage therapists must avoid deep tissue work.** Additionally, the normal responses of relaxation and a feeling of well being from massage may be significantly magnified, so effleurage and petrissage should be done quickly. **End the session with fast friction and tapotement.**

**Antihypertensives:** Sympatholytics act by inhibiting stimulation of the sympathetic nervous system and include central-acting inhibitors, alpha blockers, mixed alpha and beta blockers, and norepinephrine depletors. Examples of these drugs are Aldomet, Cardura, Catapres, Hytrin, Minipress, Tenex and Trandate. **Vasodilators** relax smooth muscles of peripheral blood vessels to lessen resistance and are prescribed for moderate to severe high blood pressure. Usually drugs from this group are used in combination with others. Exam-
Examples would include Apresoline, Hyperstat, Nipride and Nitropress.

**ACE Inhibitors** interrupt the angiotensin converting enzyme (ACE) that is part of the renin-angiotensin-aldosterone system. This reduces peripheral vascular resistance through arteriole dilation. Also, they promote the elimination of sodium and water to reduce blood volume, thus reducing blood pressure. The following examples of drugs in this group are used when beta blockers or diuretics are not effective. They include Accupril, Altace, Alt-Captopril, Lotensin, Monopril, Vasotec and Zestril.

**SIDE EFFECTS:** low blood pressure, drowsiness, dizziness, fatigue, headache, insomnia, depression, numbness and tingling, joint pain, muscle pain and back pain. Breast tenderness can occur in both male and female clients using vasodilators.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** These drugs may increase the parasympathetic effects of massage. **Use of faster and more stimulating strokes help prevent heightening side effects** of low blood pressure, drowsiness and dizziness, while promoting balanced relaxation. Safety of the client when getting on and off the table is to be addressed. **Avoid deep tissue** (or use with great caution) if numbness and tingling are present. For clients using vasodilators, check positioning if breast tenderness is present.

**Diuretics:** Thiazide and thiazide-like formulations promote excretion of water and electrolytes by the kidneys to decrease circulating blood volume and ease cardiac output. Specifically, they act on the distal and convoluted tubules of the kidneys to block resorption of sodium and chloride ions. They are used long term to treat high blood pressure, as well as edema caused by corticosteroids, estrogen therapy, liver or kidney disease, and heart failure. They are also prescribed for diabetes insipidus (excess thirst and excessively large amounts of urine). Examples of drugs in this group are Enduron, HCTZ, HydroDIURIL, Lozide, Lozol, Metatensin, Naturetin, Renese and Thalitone.

**Loop Diuretics** are the most potent and are prescribed to treat high blood pressure and edema from heart failure, as well as liver or kidney disease. These medications act on the ascending loop of Henle in the kidney to block chloride ion resorption. Included in this group are...
Bumex, Burinex, Demadex, Edecrin, Furocot and Lasix. The first two in the list are the shortest acting and are 40 times stronger than the last two. **Potassium-sparing diuretics** act on the distal kidney tubules to increase sodium, chloride and water elimination while retaining hydrogen ions and potassium. They are prescribed for high blood pressure, edema, low potassium in heart failure patients on other diuretics, cirrhosis of the liver, and excess aldosterone secretion. Drug names include Aldactone, Dyrenium, Inspra and Kaluril.

**SIDE EFFECTS:** low blood pressure when changing position, muscle cramps or nerve dysfunction (due to loss of electrolytes). For clients using potassium-sparing diuretics, drowsiness, headache and breast tenderness can occur.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** A doctor’s release is to be on file. **Limit effleurage to prevent excess elimination of fluids.** Fast friction, petrissage and tapotement can be used. Generalized muscle cramping may mean an electrolyte imbalance, and the client should be referred to their doctor. With clients taking potassium-sparing diuretics, comfort positioning for breast tenderness may be necessary.

**Cardiovasculars:** **Digitalis glycosides** work by strengthening ventricular contractions, increasing the pumping action efficiency of the heart. In addition, these medications slow the heart rate by affecting the central nervous system. They are useful to treat abnormal heart rhythms and slowing the conduction system. Examples are Digoxin and Lanoxin.

**Antiarrhythmics or sodium channel blockers.** The first group in this category is used to treat premature ventricular contractions, ventricular tachycardia and atrial arrhythmias by changing myocardial muscle cell membranes and the heart’s electrical conduction system. Drugs from the three quinidine groups can cross the blood-brain barrier. Examples from the first group of sodium channel blockers affecting both atrial and ventricular arrhythmias include Cardioquin, Dura-Tabs, Norpace, Procan, Pronestyl, Quinaglute, Quinalan and Quinidex.

The second group of **sodium channel blockers** affects only ventricular arrhythmias, and includes Mexitil, Tonocard, Xylocaine or Xylocard. The third group is used to treat severe ventricular arrhythmias that don’t respond to other treatment. This group includes Ethmozine, Rhythmol and Tambocor.

**Antiarrhythmics or beta blockers.** These drugs block receptor sites on the heart’s surface and in the conduction system to prevent stimulation from the sympathetic nervous system. This reduces the rate and strength of the heart’s muscle contractions so it requires less oxygen to do its work. They are used to treat high blood pressure, angina, vascular headaches (migraines), atrial fibrillation, atrial flutter and paroxysmal atrial tachycardia. Some examples include Betaloc, Blocadren, Brevbloc, Bystolic, Inderal, Lopressor and Tenormin (atenolol).

**SIDE EFFECTS:** headache, fatigue, dizziness, low blood pressure, muscle weakness. The **adverse effects** of digitalis glycosides can include abnormal heart rhythms, altered vision, heart failure and hallucinations since this drug has a narrow margin of safety and requires blood testing to prevent toxicity. All three groups of antiarrhythmics and sodium channel blockers can cause dizziness. Other side effects can range from headache and low blood pressure to fatigue, insomnia, tremor and weakness. Antiarrhythmics or beta blockers may cause dizziness, fatigue, low blood pressure and joint pain.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** Avoid deep tissue if the client has tingling, pricking, or numbness. Avoid fast effleurage is the client is in severe heart failure. In any case, a doctor’s release is indicated. Assisting the client off the table is necessary if dizziness or low blood pressure is an issue. For clients using antiarrhythmics and sodium channel blockers, a doctor’s release before proceeding with massage is absolutely necessary. In many cases, the arrhythmias being treated can be life-threatening, so caution is
Clients currently taking antiarrhythmics or beta blockers may need stimulation with fast effleurage and mild tapotement at the end of the session to help with low blood pressure and/or dizziness, except in severe arrhythmias.

warranted throughout the session. Assisting the client with position changes and observing the response is necessary to their safety. Clients currently taking antiarrhythmics or beta blockers may need stimulation with fast effleurage and mild tapotement at the end of the session to help with low blood pressure and/or dizziness, except in severe arrhythmias. Obtaining a doctor’s release is recommended, and staying with the client until they are tolerating being seated is indicated.

**Antianginals:** Nitrates lessen the amount of blood returning to the heart from the periphery, easing the heart’s workload and demand for oxygen. They are used for acute chest pain (angina), high blood pressure and congestive heart failure. Nitrates can be taken under the tongue (sublingual), in the cheek pocket (buccal), chewed, sprayed under the tongue, or applied as an ointment or in a patch. Some examples of this drug include IMDUR, Isordil, and the nitroglycerin group (Nitro-Bid, Nitrodisc, Nitro-Dur, Nitrogard, Nitrol, Nitrostat, Transderm-Nitro and Tridil).

**Beta blockers** may be used to control long-term angina.

**Calcium channel blockers.** If the first two groups of drugs do not produce the desired response, this group is used for long-term prevention of angina, especially Prinzmetal’s angina (also called variant). Drug examples include Cardene, Cardizem, Isoptin, Novo-Veramil and Procardia.

**SIDE EFFECTS:** dizziness, weakness, low blood pressure when changing position, flushing and headache. Clients using **calcium channel blockers** may experience dizziness, low blood pressure, headache, weakness and peripheral edema.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** Effleurage potentiates the relaxation of blood vessel smooth muscle caused by the drug, so proceed with caution. **Less effleurage and petrissage may be necessary for the session.** If side effects of dizziness, weakness, or low blood pressure are evident during or at the end of the session, stimulating strokes, such as fast effleurage, tapotement, should be employed to counteract these effects. If a patch is adhered to the skin, keep all strokes 4 to 6 inches away from the site. If a topical cream has been applied, the site should not be massaged for as much as eight hours. Stay with the client as they sit up after the massage. A doctor’s release is prudent for clients using calcium channel blockers. The client may need help on and off the table. Stimulating strokes may be needed if the client is dizzy, sleepy, or weak—both during the session and at the end.

**Protocols for Decision-making.**

**ASSESS.** Massage therapists need to understand if a client’s main problems, symptoms, and/or complaints are due to medication side effects—most of which can mimic common symptoms. In the absence of any lifestyle changes, consideration can be given to the body reacting to a medication, even if it has been tolerated
for a considerable length of time in the past.

For example, many drugs used for high blood pressure can cause dizziness, drowsiness, fatigue, headaches, muscle or joint pain, numbness and/or tingling, rash and swollen ankles. Those same side effects (except for the muscle or joint pain) can be caused by NSAIDS, as well. Antidepressants can cause dizziness, drowsiness, fatigue, headaches, muscle or joint pain or rash. Being familiar with some of the general side effects of medications can help you better determine when a problem may be related to what a client is taking to treat other health concerns.

**MEDICATION HISTORY DOCUMENTATION.** Recording medications (prescription and over-the-counter), remedies (such as herbal) and supplements on a separate intake form can give practitioners a clearer picture of what is being taken and why. If the client does not know why they are taking a specific drug, further research can be conducted to discover the reason.

Knowing whether a drug is being taken for a limited time or is long-term gives clues to whether there is a chronic or precarious condition involved that needs to be considered during session planning. Also, look for medications that fall within the same category, which might contribute to potential toxicity.

For example, a client who has been on corticosteroids long-term (several weeks or more) is at high risk of connective tissue breakdown, muscle weakness, osteoporosis, edema, high blood pressure and even thromboembolism.

**VISUAL INSPECTION.** Look for the following when greeting and interviewing the client: edema, facial expression, gait and movement patterns, limb size and shape, as well as physical deformity posture when standing and/or sitting.

For example, clients taking calcium channel blockers long-term may be predisposed to altered gait caused by edema in the feet and ankles. Hip or lower back problems that do not resolve would be seen as secondary, and the edema should be seen as the primary cause of the altered gait. This requires a referral to the prescribing doctor.

**CHECKING BY PALPATING.** The therapist’s hands can detect the status of the health and hydration of tissues, mobility of fascia, trigger points, hypo- or hypertonic muscles, and skin temperature and moisture level. Some drugs cause changes you can palpate:

- **Ibuprofen** (anti-inflammatory) can increase perspiration so skin feels moist and cool.

- **CNS depressants and muscle relaxants** alter tone of skeletal muscles so they feel loose and can be easily overstretched.

- **Corticosteroids** taken long term break down connective tissues. Skin can feel fragile, muscles are softer and hypotonic, and lymphatic tissue edema is common.

- **Injection sites** used over and over can exhibit edema, restriction of fascial mobility, nodules, fibrosis, and they can be painful, too. After an injection of cortisone into a muscle, avoid the site for a minimum of one hour. After injection into a joint or lesion, avoid the area for a minimum of three days.

- **Narcotic analgesics, anti-inflammatories,** as well as other drugs that alter pain perception, might allow the client to exhibit normal range of motion without discomfort or pain even though the tissues are being stressed or damaged.

**Planning the Session**

**SCHEDULING** should coincide with bioavailability patterns of drugs. Especially for clients who need a consistent level of a medication in the blood to be medically stable, sessions should be set for an appropriate time after their scheduled dosing. This would include diabetics on insulin, epileptics on antiseizure medications and those needing meds for chronic pain, to name a few.

The opposite could be true for a person on a pain medication for a limited problem, so the session could be scheduled for the time frame when the therapeutic level of the drug is low. Scheduling the appointment this way allows the client to give more accurate feedback regarding discomfort or pain when range of motion or tissue status in the subacute phase of healing is being evaluated and/or facilitated.
IMPLICATIONS FOR MASSAGE THERAPISTS. Circulatory and nervous system effects of massage strokes could impact the stability of clients who need ongoing medication. Knowing half-life and when peak levels are achieved for any medication will assist in proper appointment times, depending on whether medical stability is the issue or if the client needs to be able to give accurate feedback to prevent stressing or damaging tissues.

FEEDBACK FROM CLIENT. A drug-altered response to pain means modalities or techniques that usually lead to some level of discomfort will be tolerated more than they should be. Clients may say everything feels fine or even request deeper work, when in reality the risk of causing more tissue damage and bruising is likely for even minor injuries or conditions.

IMPLICATIONS FOR MASSAGE THERAPISTS. Set the appointment for just before or shortly after the client takes a dose of the pain medication.

Reasons for Adapting or Shortening the Session

FATIGUE is a potential side effect of many medications, including antidepressants, anti-anxiety, NSAIDs, calcium channel blockers, anti-hypertensives, antihistamines, Glucophage for Type 2 diabetes and corticosteroids, for example. When a client is feeling fatigue, massage therapists should really consider the benefits of shortening the massage therapy session.

MOOD AND EMOTIONS such as depression and anxiety can be a side effect of beta blockers, calcium channel blockers, ACE inhibitors, diuretics, bronchodilators, SS-RRIs and corticosteroids, among others. Gauge how your client is feeling emotionally, and make adjustments to the session based on what you find.

Medication and Selecting Massage

Drugs altering blood clotting: Anticoagulants like oral Coumadin and intravenous or subcutaneous Heparin, as well as platelet inhibitors like aspirin, have side effects of easy bruising or the adverse effect of bleeding. One dose of aspirin can inhibit the clumping of platelets for

Scheduling should coincide with bioavailability patterns of drugs. Especially for clients who need a consistent level of a medication in the blood to be medically stable, sessions should be set for an appropriate time after their scheduled dosing.
a week or more, thereby preventing a blood clot from forming, especially in arteries.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** Avoid deep tissue if the client is on anticoagulants and modify (proceed with caution) if on a platelet inhibitor. Modify or avoid (depending on the client’s response to massage) deep kneading, muscle stripping, cross fiber friction and ischemic compressions for trigger points.

Excess bruising and inflammation can occur from these techniques. Ideal strokes include gentle compression, petrissage and friction, along with vibration and rocking. If hair loss is a problem, avoid scalp massage. If clients on platelet inhibitors have stomach or abdominal pain or heartburn, for example, they may not be able to lie horizontal or prone. Abdominal massage is indicated for constipation since it promotes parasympathetic influence on the digestive system resulting in increased peristalsis in the colon.

**Drugs altering usual responses for protection of tissues**

These would include anti-anxiety meds like Ativan, Librium, Valium, Xanax; muscle relaxants like Soma, Parafon Forte, Flexeril or Flexetec, Robaxin; and narcotic analgesics like Demerol, morphine, Talwin, OxyContin and Vicodin. While the first group work on brain receptors to adjust emotional responses, the second and third are central nervous system depressants causing dizziness, drowsiness, orthostatic hypotension and constipation, for example.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** Avoid contract/relax stretching and deep tissue. Sensory organs, such as Golgi tendon organs, muscle spindles, joint capsules and ligament receptors, may not cause the usual responses to the pressure of stress or stretch techniques due to depression of the nervous system responses to sensory feedback. Tissue may not tighten as a sign that the technique is too aggressive, so damage can result. Using a faster pace for effleurage, petrissage and friction during the session would lessen the sedation effect of massage being added to the sedating effects of the drug. Abdominal massage may help relieve constipation.

**Drugs compromising integrity of tissues**

Corticosteroids like Depo-Medrol, Decadron, Solu-Cortef and the prednisones fall into this group. They suppress the immune system and reduce inflammation. When used long term, the client will likely have atrophy and weakening of muscles, tendons, ligaments, joint capsules, bones and skin. Articular cartilage breakdown is also likely if the drug is injected into a joint.

**Drugs that change response to pain**

Analgesics and anti-inflammatories (topical and oral) like NSAIDS, narcotic analgesics (used for moderate to severe pain and must be prescribed by a physician), salicylates and topical anesthetics, including ice.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** Pressure and depth of all strokes should be utilized carefully. The sense of well-being and relaxation from massage may be heightened greatly by the narcotic analgesics, since they act like the endorphins the body produces. Effleurage and petrissage should be more rapid than usual, and stimulating strokes like tapotement should be used at the end of the session. Since constipation is often a side effect, abdominal massage can be beneficial.

Dizziness can result when taking NSAIDS and salicylates, the latter causing dilation of peripheral blood vessels leading to a drop in blood pressure. Since massage strokes cause dilation of peripheral blood vessels also, using rapid effleurage, petrissage and friction along with tapotement at the end of the session should decrease the risk of dizziness. In any case, observing and palpat-
ing tissue will give a more accurate assessment of tolerance to various strokes than the client’s verbal feedback can give.

**Drugs that change the client’s ability to cooperate:** Medications included in this category are anti-anxiety medications like Xanax, Valium, Librium and Ativan; narcotic analgesics like Duragesic, Dilaudid, Demerol, MS Contin, Stadol, OxyContin, Buprenex, Talwin and Vicodin. The latter class of drugs (narcotics) binds to opiate receptor sites in the central nervous system and the peripheral nervous system. They imitate the action of endorphins and enkephalins, which are the body’s naturally occurring opiates for the relief of pain. The side effects can include drowsiness, dizziness, elation, sedation, or constipation.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** The anti-anxiety drugs work on several areas of the brain to slow or stop nerve impulses for attention, wakefulness and emotional responses. Effleurage should be fast and tapotement included in the session.

**Drugs given by injection or in a patch:** Many different body areas and tissues can be utilized to dispense many classes of medications. The patch is utilized to administer hormones, an NSAID, an Alzheimer’s drug, nicotine and nitroglycerin, for example.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** Avoid injection sites for two hours to two days for short acting drugs, such as narcotic pain relievers, vaccines, local anesthetics, antibiotics and insulin, for example. Avoid massaging a depot shot site (long-acting drug) for up to six weeks. Proceed with lighter strokes first. Avoid hydrotherapy over recent injection sites. Work outside a 4- to 6-inch radius for a skin patch (time-released medication). Do not remove or manipulate a patch because that puts you at risk of being exposed to the drug.

**Drugs decreasing skin sensitivity to temperature:** Central nervous system depressants, long-term corticosteroids, creams and ointments for muscle and joint pain are all included in this category of medication.

**IMPLICATIONS FOR MASSAGE THERAPISTS:** Clients on multiple medications that have similar effects may have a reduced ability to sense the true temperature of a hot pack. For example, you might have a client taking a narcotic analgesic for moderate pain, an anti-anxiety medication and using a topical over-the-counter analgesic cream for joint pain. Feedback regarding whether the hot pack is too hot is unreliable, as well as for the massage techniques being used. The client is likely to be bruised, potentially burned and in greater pain the next day.

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This *mtj* article serves as the basis for the AMTA Online Course of the same name. To register for the course and receive continuing education hours and a certificate of completion for the Online Course, please visit [www.amtaonlinetraining.org](http://www.amtaonlinetraining.org).
The therapist’s hands can detect the status of the health and hydration of tissues, mobility of fascia, trigger points, hypo- or hypertonic muscles, and skin temperature and moisture level.