

Contraindications & Precautions

There remains some controversy over exactly what does and does not constitute a contraindication to each modality. In addition to any list produced, it is essential that the therapist makes a professional judgement as no listing can cover all variations and clinical circumstances.

The lists of contraindications (by modality) below are derived from consensus rather than claiming to be a definitive list. They are included here to assist and the author makes no claim for their mutual exclusivity or comprehensiveness.

Biofeedback

CONTRAINDICATIONS

Dermatological conditions (e.g. eczema, dermatitis)
Allergy to the electrode or contact material (tape / gel)
Patients who are unable to understand or respond to the instructions of the therapist
Patients with pacemakers (although not directly affected by the EMG Biofeedback, they may be susceptible to electromagnetic fields in the therapy environment. If in doubt, check with the appropriate authority.)
Electrodes should not normally be placed over the eyes or other sensitive tissue

PRECAUTIONS

If a patient has a diminished skin sensation, the full benefit of the therapy may not be realised. If alternative placement of the electrodes over normally sensitive skin is not possible, extra care should be taken.
Patients with epilepsy may experience an adverse response to the visual display (flashing lights / computer screen). Such patients should be treated with caution and careful monitoring following consultation between the therapist and the appropriate medical practitioner.

Cryotherapy

CONTRAINDICATIONS

General, advanced cardiovascular disease
Local areas of impaired peripheral circulation
Extensive scar tissue – poor blood supply may lead to ice burns
Deep X Ray therapy or other ionising radiations in the last 6 months in the region being treated
Malignant tissue
Subjects with reduced levels of consciousness or impaired understanding
Acute febrile illness
Some acute skin conditions e.g. eczema, dermatitis
Open or infected wounds (without appropriate precautions)
Vasospasm (e.g. Raynauds disease)
Cryoglobulinaemia
Cold urticaria

PRECAUTIONS

Do not allow tissue to become waterlogged
Very large areas (e.g. bilateral lower limbs) should never be subjected to temperatures below 20C
Cryotherapy is usually applied with a wet / damp surface against the skin

Hot Packs

CONTRAINDICATIONS

Impaired circulation
Areas of recent bleeding or haemorrhage
Lack of local thermal sensation
Devitalised tissue e.g. after deep X ray therapy
Open wounds
Impaired circulation of the part to be treated
Malignancy

PRECAUTIONS

Never allow a patient to lie on top of a hot pack, particularly if treating the trunk
Avoid using hot packs on very overweight patients as the tissues may not dissipate the heat effectively and thus lead to a burn
Moisture may encourage damaged or infected skin to break down

Interferential Therapy

CONTRAINDICATIONS

Patients who do not comprehend the physiotherapist's instructions or are unable to co-operate should not be treated
Patients who are taking anticoagulation therapy or have a history of pulmonary embolism or deep vein thrombosis should not be treated with the vacuum electrode applications
Similarly, patients whose skin may be easily damaged or bruised
Application over :

- The trunk or pelvis during pregnancy
- Active or suspected malignancy except in hospice care
- The eyes
- The anterior aspect of the neck
- The carotid sinuses (stimulation in this area may cause a drop in blood pressure)

Patients with pacemakers
Dermatological conditions e.g. dermatitis, broken skin
Danger of haemorrhage or current tissue bleeding (e.g. recent soft tissue injury)
Avoid active epiphyseal regions in children

PRECAUTIONS

Care should be taken to maintain the suction at a level below that which causes damage / discomfort to the patient
If there is abnormal skin sensation, electrodes should be positioned in a site other than this area to ensure effective stimulation
Patients who have abnormal circulation
For patients who have febrile conditions, the outcome of the first treatment should be monitored
Patients who have epilepsy, advanced cardiovascular conditions or cardiac arrhythmias should be treated at the discretion of the physiotherapist in consultation with the appropriate medical practitioner
Treatment which involves placement of electrodes over the anterior chest wall

Infrared

CONTRAINDICATIONS

Areas with poor or deficient skin sensation
Generalised advanced cardiovascular disease
Local areas of impaired peripheral circulation
Extensive scar tissue
Deep X Ray treatment or other ionizing radiation (in the last 6 months) in the region being treated
Malignant tissue (except in terminal / palliative / hospice care)
Subjects with reduced levels of consciousness or impaired understanding
Acute febrile illness
Some acute skin conditions e.g. eczema, dermatitis
Sensitive structures (e.g. eyes and testes)

PRECAUTIONS

Never position the lamp such that it could drop onto the patient

Laser Therapy

CONTRAINDICATIONS

Active or suspected carcinoma (except in hospice care)
Direct irradiation of the eyes
Cognitive difficulties or unreliable patients
Increased sensitivity to light
Irradiation over the pregnant uterus

PRECAUTIONS

Avoid irradiation of the gonads
Avoid irradiation of patients with a history of epilepsy
Avoid irradiation of areas of altered skin sensitivity
Ensure that the patient understands the nature of the treatment and related dangers
Avoid active epiphyseal regions in children

Low Frequency Current

CONTRAINDICATIONS

Patients who do not comprehend the physiotherapist's instructions, or who do not cooperate should not be treated
Patients with pacemakers
Patients who have an allergic response to the electrode / tape / gel
Patients with skin conditions (e.g. eczema, dermatitis)
Patients with current or recent bleeding / haemorrhage
Patients with open wounds
Patients with compromised circulation e.g. ischaemic tissue, thrombosis and associated conditions
Application over :

- The anterior aspect of the neck or carotid sinus
- Lower trunk, abdomen or pelvis during pregnancy
- The eyes
- Anaesthetic areas

PRECAUTIONS

If the skin sensation is not normal, it is preferable to position the electrodes at an alternative site which ensures effective circulation

Avoid active epiphyseal regions in children

Select stimulation parameters appropriate to the effect desired. Inappropriate stimulation parameters may cause muscle damage, reduction in blood flow through the muscle and low frequency muscle fatigue

Appropriate care should be taken to ensure that the level of muscle contraction initiated does not compromise the muscle nor the joint(s) over which it acts

Patients with a history of epilepsy should be treated at the discretion of the physiotherapist in consultation with the appropriate medical practitioner

Microwave Diathermy

CONTRAINDICATIONS

Areas of poor or deficient skin sensation

Metal in the tissues

Circulatory compromise or deficit including ischaemia, thrombosis and associated conditions

Advanced cardiovascular conditions

Pacemakers

Pregnancy

Recent or current haemorrhage

Avoid irradiation to the abdomen or pelvis during menstruation

Malignancy

Active tuberculosis

Deep X Ray treatment or other ionizing radiation (in the last 6 months) in the region to be treated

Patients who are unable to understand the instructions provided or who are unable to cooperate with the treatment demands

PRECAUTIONS

Avoid active epiphyseal regions in children

Irradiation of the eyes should be avoided and when exposure is likely, protective goggles should be worn by the patient

Avoid other specialised tissues (e.g. testes)

Pulsed Shortwave Diathermy (PSWD)

CONTRAINDICATIONS

There is some controversy as to the thermal nature of PSWD, but in the light of recent research, it is suggested that in order to stay below the level at which thermal accumulation may occur, a mean power of less than 5 Watts should be employed, especially if tissue heating is considered inappropriate. If mean power levels are employed such as to achieve tissue heating, then the contraindications listed for continuous shortwave must be employed. It is acceptable to use PSWD machines as a thermal intervention so long as the appropriate precautions are taken.

Non Thermal Applications (below 5 Watts mean power)

Circulatory compromise or deficit including ischaemic tissue, thrombosis and associated conditions

Pacemakers

Pregnancy

Recent or current haemorrhage

Avoid treatment of the abdomen and pelvis during menstruation

Malignancy

Active tuberculosis

Deep X Ray therapy or other ionizing radiations (in the last 6 months) in the region to be treated

Patients who are unable to comprehend the therapists instructions or who are unable to cooperate

It is considered safe to deliver a low dose (less than 5 Watts mean power) when there is metal in the tissues

Metal plinths are generally considered acceptable when the applied mean power is less than 5 Watts

PRECAUTIONS

Avoid active epiphyseal regions in children

Avoid specialised tissues (e.g. eye and testes)

PHYSIOTHERAPIST SAFETY

In the interest of physiotherapist safety, it is recommended that once the machine has been switched on, the physiotherapist and all other personnel should keep at least 1 metre from the operating machine, leads and electrodes. Pregnant physiotherapists or others with concerns may want to ask a colleague to turn the SWD / PSWD machine on. Almost all modern machines will turn off automatically. It is recommended that physiotherapists consult the 'Safe Practice with Electrotherapy (shortwave Therapies)' document (CSP 1997) for further information.

OTHER ELECTROTHERAPY APPARATUS

It is recommended that other electrotherapy devices, especially electrical stimulation apparatus, are kept at least 2 metres from the SWD / PSWD machine. The output of some machines (e.g. interferential therapy devices) can be affected by close proximity to an operating SWD / PSWD machine. Departments / physiotherapists should establish the conflicts between their particular SWD / PSWD and electrical stimulation apparatus as these will not be the same for all combinations of equipment. It is considered unwise to operate two SWD / PSWD machines simultaneously without maintaining a separation of at least 3 metres.

Shortwave Diathermy

CONTRAINDICATIONS

Areas of poor or deficient thermal skin sensation

Metal in the tissues

Circulatory compromise or deficit including ischaemic tissue, thrombosis and associated conditions

Advanced cardiovascular conditions

Pacemakers

Pregnancy

Recent or current haemorrhage

Avoid irradiation of the lower trunk, abdomen or pelvis during menstruation

Malignancy

Active tuberculosis

Deep X Ray therapy or other ionizing radiations (in the last 6 months) in the region to be treated

Patients who are unable to cooperate

PRECAUTIONS

Avoid active epiphyseal regions in children

Avoid specialised tissues (e.g. eye and testes)

Transcutaneous Electrical Nerve Stimulation (TENS)

CONTRAINDICATIONS

Patients who do not comprehend the physiotherapist's instructions or who are unable to cooperate

Avoid the application of the electrodes over the trunk abdomen or pelvis during pregnancy with the exception of the use of TENS for labour pain

Pacemaker

Patients who have an allergic response to the electrodes, gel or tape

Dermatological conditions e.g. dermatitis, eczema

PRECAUTIONS

If there is abnormal skin sensation, the electrodes should be positioned in a site other than this area to ensure effective stimulation

Electrodes should not be placed over the eyes

Patients who have epilepsy should be treated at the discretion of the physiotherapist in consultation with the appropriate medical practitioner

Avoid active epiphyseal regions in children

The use of abdominal electrodes during labour may interfere with foetal monitoring equipment

Ultrasound

CONTRAINDICATIONS

Avoid exposure to the developing foetus
Malignancy
Vascular abnormalities including DVT and severe atherosclerosis
Acute infections
Haemophiliacs not covered by replacement factor
Application over :

- Specialised tissue e.g. eye and testes
- The stellate ganglion
- The cardiac area in advanced heart disease
- The spinal cord following laminectomy
- The cranium
- Active epiphyseal regions in children

PRECAUTIONS

Anaesthetic areas should be treated with caution if a thermal dose is being applied
Subcutaneous major nerves and bony prominences
Always use the lowest intensity which produces a therapeutic response
Ensure that the applicator is moved throughout the treatment
Ensure that the patient is aware of the nature of the treatment and the expected effects
If pain, discomfort or unexpected sensations are experienced by the patient, the treatment intensity should be reduced. If the symptoms persist, the treatment should be terminated.

Ultraviolet Radiation (UVR)

CONTRAINDICATIONS

Absolute

- xeroderma pigmentosum
- Gorlin's syndrome
- Hereditary dysplastic naevus syndrome
- Systemic lupus erythematosus
- Dermatomyositis
- Trichothiodystrophy
- Bloom's syndrome
- Cockayne's syndrome
- Previous malignant melanoma

Relative contraindications – major

- Age less than 10 years
- Previous or current non-melanoma skin cancer
- Previous exposure to arsenic or ionising radiation
- Current premalignant skin lesions
- Concomitant immunosuppressive therapy
- Pregnancy (applies to PUVA treatments only)
- Some forms of porphyria

Relative contraindications – minor

- Age less than 16 years
- Cataracts (applies to PUVA treatments only)
- Bullous pemphigoid
- Pemphigus

Previous or concomitant treatment with methotrexate
Significant hepatic dysfunction (applies to PUVA treatments only)
Patients with a history of epilepsy should be treated at the discretion of the physiotherapist in consultation with the appropriate medical practitioner

PRECAUTIONS

Avoid unnecessary exposure to sunlight on treatment days
Patient should wear UV opaque eye protection during treatment (and for the remainder of the day in the case of PUVA)
Ensure that the patient is not taking photosensitising medication
Female patients and male patients' female partners should preferably avoid conception during treatment (applies to PUVA treatments only)

Wax

CONTRAINDICATIONS

Impaired circulation
Areas of recent bleeding or haemorrhage
Lack of thermal sensation
Devitalised tissue (e.g. after Deep X Ray therapy)
Open wounds
Infection
Malignancy
Acute inflammation
Skin conditions (e.g. acute dermatitis, eczema)
Unstable, fragile or early stage skin grafts

PRECAUTIONS

The 'dip and re-immense' method should be avoided in patients with significant oedema
Cooler wax temperatures are required for the foot than the hand
Moisture may encourage damaged or infected skin to break down