Clinical Practice Document – Physiotherapy Role and Scope for Skin and Wound Management

CONTENTS:

Site Applicability

Vancouver Coastal Health (VCH) and Providence Health Care (PHC)

Practice Level

Physiotherapists

Basic Skills: assessment of skin and simple wounds, application of simple dressings

Advanced Skills: assessment of complex wounds, use of electrotherapeutic modalities, debridement of wounds, burn management, Semmes-Weinstein Monofilament testing, Ankle-Brachial Index (ABI) testing, seating/mat assessment, pressure mapping, wheelchair prescription plus backs and cushions, prosthetic fitting

Policy Statements

CPD S –126 Skin and wound management: Arterial leg ulcer management

CPD S –127 Skin and wound management: Venous leg ulcer management

CPD S –128 Skin and wound management: Diabetic Neuropathic Foot Ulcer management

CPD S –130 Skin and wound management: Pressure Ulcer Management PCG S-130 - Skin and Wound Management: Pressure Ulcer Management

CPD S- 131 Occupational Therapy Skin Care Guidelines: OT Skin Care Guideline

CPD S –135 Skin and wound management: Decision grid for topical treatment of wounds (excluding burns and malignant wounds)

CPD S –155 Skin and wound management: Infection prevention and control

CPD S –150 Skin and wound management: Ankle Brachial Index Procedure

CPD S –151 Skin and wound management: Specialty Beds (Support Surface) selection guide

CPD S –160 Skin and wound management: Electronic Wound Management System eWMS (Pixalere)

CPD S – 170 Wound Care Product Guidelines: Wound Product Guidelines

Need to Know

Skin assessment to identify areas at risk for potential skin breakdown

Wound assessment – location, size, depth, drainage, and stage of wound

Knowledge of interdisciplinary roles in the management of skin and wounds

Equipment and Supplies

Basic Assessment Tools: Braden Pressure Ulcer Risk Assessment

Advanced Assessment Tools: Ankle Brachial Index (ABI), Pressure Ulcer Scale for Healing (PUSH), Bates - Jensen Wound Assessment Tool, Leg Ulcer Measurement Tool (LUMT)

Basic Assessment Equipment: ruler, gloves, dressing tray, staple remover, suture removal set, Polaroid / digital camera

Advanced Assessment Equipment: graph paper or grid (opsite), sterile Q-tips, suture set, eWMS (Pixalere), digital camera and colour printer, pressure mapping system, firm mat for seating assessments

Sensation Testing: pin, cotton, test tubes, Semmes-Weinstein monofilaments

Dressings: absorbent & non-absorbent dressings, tape, Opsite Transparent , steri-strips, non-adherent film

Electrophysical Agents: High Voltage Pulsed Current (electrical stimulation), Ultrasound, Laser, UVC, sequential compression pump

Protocol Specific Products: tensor wrapping / stump shrinker for amputees, compression wrap therapy for venous compression, burn pressure garments

ABI Testing: blood pressure cuff and doppler or stethoscope

♦ BASIC ASSESSMENT ⇒ SKIN (intact or open)

• Risk Factors - refer also to the Braden Scale

Client Factors: mobility or degree of immobility, moisture, bony prominences, altered tone, inflammation, edema, swelling, neurological deficit, self-care knowledge and skills, nutritional status, cognition, adherence to care plan, vocation, sports and leisure activities

Environmental Factors: friction and shear, pressure points, seating, sleeping surface, transfer surface, assistive devices used (ie. toilet seat, sliding board, tub transfer bench), transportation (ie. car, wheelchair, van), home environment and physical set up

Caregiver Factors: informal and / or formal supports, knowledge and skill level

• Basic Interventions

Client / caregiver education: skin care self-management skills for protection/management, skin checks, adequate pressure relief, nutrition, equipment management and maintenance (ie. cushion, mattress), offloading boots

Positioning / protection: pressure relief methods (ie. side shift, forward lean, tilt back, rolling) frequency and timing, pressure relieving devices (ie. cushion, mattress), offloading boots

Functional Mobility: appropriate equipment (clothing, footwear, assistive devices), degree of assistance required for each activity/task, and method or technique

♦ ADVANCED ASSESSMENT ⇒ WOUNDS

1) Pressure Ulcers - assess stage of pressure ulcer; refer to National Pressure Ulcer Advisory Panel (NPUAP) for Pressure Ulcer staging

• Risk Factors

Client factors:

a) Physical – infection, immobility, sensory impairment, moisture, acute illness, malnutrition, obesity, dehydration, level of consciousness, previous history of pressure damage, extremes of age, co-morbidities, vascular disease, smoking, medication / substance use, chronic or terminal illness, deterioration of functional level

b) Psychosocial - cognitive ability, knowledge and skills to prevent and manage skin and wounds, mental status (ie. depression), support network, financial resources, addictions

Environmental Factors: pressure, shearing, friction, equipment (ie. correct fit, good working condition, proper inflation and placement of cushion), weight bearing surfaces, extreme temperature, moisture

Caregiver Factors: knowledge and skills to prevent and manage skin and wounds, formal and / or informal human resources, consistency of caregivers, appropriate use of client's equipment

• Interventions

Refer to CPD- S 130 Skin and wound management: Pressure Ulcer Management

Refer to CPD-S 155 Skin and wound management: Infection Prevention and Control

Client and caregiver education: promotion of effective self-management

Functional mobility: assessment and modification of transfers, gait, positioning and equipment

Pressure mapping: identification of high-pressure areas, recommendation of optimal positioning and pressure relieving strategies (ie. turning/repositioning schedule, seating, mattress), offloading boots

Electrophysical agents: (listed in descending order of effectiveness based on best evidence)

a) High Voltage Pulsed Current (electrical stimulation)

b) Ultrasound

c) UVC

d) Laser

2) Surgical Wounds - assess for healing, appropriate timing for removal of staples / sutures

Various types of surgical incisions: abdominal, thoracic, sternotomy, spinal, external fixation, vascular, craniotomy, graft sites, amputation, mastectomy, joint arthroplasty, myocutaneous flaps, drain sites, open wound secondary to trauma or surgery (e.g. open-reduction internal fixation ORIF), etc.

• Risk Factors

Client factors: infection, positioning / elevation, immobility, sensory impairment, moisture, acute illness, malnutrition, obesity, dehydration, level of consciousness, previous history of pressure damage, extremes of age, co-morbidities, vascular disease, smoking, medication / substance use, chronic or terminal illness, deterioration of functional level, psychosocial issues

Environmental Factors: pressure, shearing, friction, equipment (ie. correct fit, good working condition, proper inflation and placement of cushion), weight bearing surfaces, extreme temperature, moisture

Caregiver Factors: knowledge and skills, maintenance of healthy wound bed, protection of new granulation tissue

• Interventions

Refer to CPD -S 135 Skin and wound management: Decision grid for topical treatment of wounds (excluding burns and malignant wounds)

Refer to CPD - S 155 Skin and wound management: Infection prevention and control

Client and caregiver education: care of skin and wound

Ongoing reassessment of healing wound: monitor for progress of healing, signs of infection, refer to appropriate health care professional if necessary, pressure mapping for pressure re-distribution e.g. ischial myocutaneous flap

Dressings: skin and wound cleaning and application of dressing appropriate to area of practice

Manual therapy: ROM, joint and tendon mobility

Wound protection/pressure control: splinting, stump bandaging / shrinker (unless it is contraindicated based on vascular status), dressing, pressure relief, cushion and mattress.

Functional mobility: progression of mobility, reduction of secondary complications, muscle strengthening

Electrophysical agents: (listed in descending order of effectiveness based on best evidence)

a) High Voltage Pulsed Current (electrical stimulation)

b) Ultrasound

c) UVC

d) Laser

Once wound healed: skin desensitization for hypersensitivity, scar tissue management (ie. massage, tissue mobilization, pressure therapy), sensory re-education for lost or decreased sensation

3) Diabetic Ulcers

• Risk Factors

Client factors: lack of knowledge and education about diabetes, lack of awareness of complications, adherence to preventive strategies (ie. daily skin check / hygiene, glucose control), foot deformities (ie. Charcot foot, hammer toe, dropped metatarsal heads, toe nails), peripheral vascular disease, impaired microcirculation (ie. abnormal Arterial Brachial Index), dry skin, moisture between toes, retinopathy, neuropathies, compromised immune system, previous ulcer history, previous infection, smoking, poor nutrition, obesity, hypertension, psychosocial issues

Environmental Factors: inappropriate footwear, restrictive clothing, trauma, friction, pressure, shear, temperature extremes, obstacles (ie. clutter, sharp edges, home layout)

Caregiver Factors: knowledge and skills, inability to assist with preventative strategies (ie. optimal diabetic control), early detection of skin issues, and optimal skin hygiene

• Interventions

Refer to CPD- S 128 Skin and wound management: Diabetic Neuropathic Foot Ulcer Management

Client and caregiver education: promotion of effective self-management care of skin and wound, footcare and podiatry services

Ongoing reassessment of the healing wound: monitor for progress of healing, signs of infection, refer to appropriate health care professional if necessary

Dressing: skin and wound cleaning, application of dressing appropriate to area of practice

Functional Mobility: ROM and strengthening exercises, gait training and assistive devices

Wound protection: protective dressing, splinting and footwear, pressure redistribution, orthotics

Electrophysical agents: (listed in descending order of effectiveness based on best evidence)

a) High Voltage Pulsed Current

b) Ultrasound

c) UVC

d) Laser

4) Burns

• Risk Factors

Client factors: periods of immobility e.g. bedrest post-grafting, sensory impairment, chronic and/ or fragile wounds, scarring, medication, substance use, psychosocial factors, nutritional status (ie. being nil per mouth (npo) for multiple surgeries, decreased motivation to eat, decreased appetite, increased protein requirement

Environmental factors: shearing, friction, equipment (ie. splints, casting), dressings, pressure support (ie. tubigrip and tensors)

Caregiver factors: knowledge and skill level of caregiver e.g. proper handling of limbs, awareness of wound fragility, ROM adaptations, assistance with pressure garments

• Interventions

Client and caregiver education: promotion of effective self-management

Team treatment: burn shower (hydrotherapy), wound debridement, dressing changes, ROM, monitor for infection

Functional mobility: progression of mobility while protecting graft and donor sites, handling techniques for fragile / healing wounds and grafts

Scar management: pressure support garments, client education

Electrophysical Agent:

a) Hydrotherapy

5) Arterial Ulcers

• Risk Factors

Client factors: vascular compromise, smoking, advanced age, immobility, nutritional status, renal disease, moisture between toes, dehydration of the skin, vasoconstrictive medication, sensory impairment, comorbidities

Environmental factors: mechanical, chemical or thermal trauma

Caregiver factors: knowledge and skills to assist with preventative strategies, early detection, optimal skin hygiene

• Interventions

Refer to CPD- S 126 Skin and wound management: Arterial leg ulcer management

Refer to CPD- S 150 Skin and wound management: Ankle Brachial Index Procedure

Client and caregiver education: promotion of effective self-management

Positioning: elevation of head of bed to promote arterial flow, protection of bony prominences

Functional mobility: exercise within tolerance, promotion of a healthy lifestyle

Wound protection: protective splinting and footwear, pressure redistribution, orthotics

Vascular assessment: check ABI; refer to vascular surgeon as appropriate

Electrophysical agents: (listed in descending order of effectiveness based on best evidence)

a) High Voltage Pulsed Current

b) Laser not recommended

6) Venous Ulcers

• Risk Factors

Client factors: presence of incompetent valves in the lower extremities, immobility, obesity, pregnancy, history of deep vein thrombosis (DVT), nutritional status, skin health, inability to don stockings, compliance with use

Environmental factors: lower limb trauma

Caregiver factors: knowledge and skills to assist with preventative strategies, early detection, optimal skin hygiene

•Interventions

Refer to CPD- S 127 Skin and wound management: Venous leg ulcer management

Refer to CPD- S 150 Skin and wound management: Ankle Brachial Index Procedure

Refer to CPD- S 135 Skin and wound management: Decision grid for topical treatment of wounds (excluding burns and malignant wounds)

Client and caregiver education: promotion of effective self-management

Compression therapy: compression dressing or garment, intermittent pneumatic compression pump

Edema and swelling control: activate the calf muscle pump with ankle ROM or use resistance if able, elevation of legs, encouragement of an active healthy lifestyle

Vascular assessment: check ABI, refer to vascular surgeon as appropriate

Electrophysical agents: (listed in descending order of effectiveness based on best evidence)

a) Ultrasound

b) High Voltage Pulsed Current

c) Laser not recommended

7) Psoriasis

• Risk Factors

Client factors: skin type and sensitivity, chronic relapsing skin disease, photosensitizing medications and foods

Environmental factors: exposure to sunlight

Caregiver factors: knowledge and skills to assist with preventative strategies and optimal skin care

• Interventions

Topical treatments: local applications of tar, vitamin D and analogues, and glucocorticosteroids

Systemic Treatments: methotrexate, cyclosporine, retinoids, and fumaric acid esters.

Ultra Violet Radiation: PUVA (with Psoralen) or UVB

Electrophysical Agents:

a) Laser in UVB range 308 nm

Expected Client / Family Outcomes

A client with or at risk for skin breakdown can obtain an assessment by a physiotherapist. Options for physiotherapy intervention will be discussed with the client and how he / she can access the most appropriate intervention. The client's skin will remain healthy and intact, or an existing wound will be facilitated to heal using an interdisciplinary approach. When a client transitions across the continuum of care, there will be clear communication amongst the health care providers.

Patient / Client / Resident Education

Education is provided to the client and health care team to enhance care including assessment, intervention, and maintenance of skin health. The education will facilitate the promotion of self-management in preparation for discharge. Information on available resources will be provided.

Site Specific Practices

Richmond Hospital Outpatient Department: acute wound care, appropriate wound dressing selection, chronic leg wounds / ABI measurement

Vancouver Community: High Voltage Pulsed Current (at Raven Song and Evergreen CHC)

GF Strong: High Volt Pulsed Current, wheelchair prescription and seating, pressure mapping

Vancouver Acute: burns, amputees

Lion's Gate Hospital and St Mary's Hospital (Sechelt) : Ultra Violet Radiation for Psoriasis

Documentation

All documentation will be on the client's chart (paper, electronic, transfer documents).

Related Documents

Clinical practice guidelines from Occupational Therapy, Nursing, and Nutrition

Clinical practice guideline for Physiotherapy modalities

Clinical practice guideline for staple removal (Vancouver Community)

References

Books:

Houghton, Pamela and Karen Campbell. "Therapeutic Modalities In The Treatment of Chronic Recalcitrant Wounds." Chronic Wound Care A Clinical Source Book for Healthcare Professionals, 4th Edition 2007, Chapter 42

Carrie Sussman, PT and Barbara M. Bates-Jensen, MN,RN. Wound Care: A Collaborative Practice Manual for Physical Therapists and Nurses, 1998

Robertson, Val, Alex Ward, John Low and Ann Reed. Electrotherapy Explained: Principles and Practice Fourth Edition. Butterworth Heinemann Elsevier 2006

Websites:

Canadian Association of Wound Care www.cawc.net

Registered Nurses Association of Ontario www.rnao.org/bestpractices <http://www.rnao.org/bestpractices>

- Risk Assessment and Prevention of Pressure Ulcers
- Assessment and Management of Foot Ulcers for People with Diabetes
- Assessment and Management of Stage I to IV Pressure Ulcers
- Assessment and Management of Venous Leg Ulcers

National Institute for Health and Clinical Excellence (NICE) http://www.nice.org.uk/

Spinal Cord Injury Research Evidence (Scire) www.icord.org/scire

National Pressure Ulcer Advisory Panel (NPUAP) http://www.npuap.org/

Journal Articles:

National Institute for Health and Clinical Excellence (NICE (2003) Sources of recommendations used in the quick reference guide: the prevention and treatment of pressure ulcers. London, England, http://www.nice.org.uk/guidance/CG29/quickrefguide/pdf/English

Royal College of Nursing. (2005) The management of pressure ulcers in primary and secondary care: A Clinical Practice Guideline. London, England.

Keast, David H. Keast, Nancy Parslow , Pamela E. Houghton, Linda Norton, Chris Fraser. "Best Practice Recommendations for the Prevention and Treatment of Pressure Ulcers: Update 2006" Wound Care Canada Vol. 4 no. 1

Dolynchuk, Ken, David Keast, Karen Campbell, Pam Houghton, Heather Orsted, Gary Sibbald, and Angela Atkinson. "Best Practice for the Prevention and Treatment of Pressure Ulcers." Ostomy Wound Management Nov 2000 Vol 46 no 11.

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