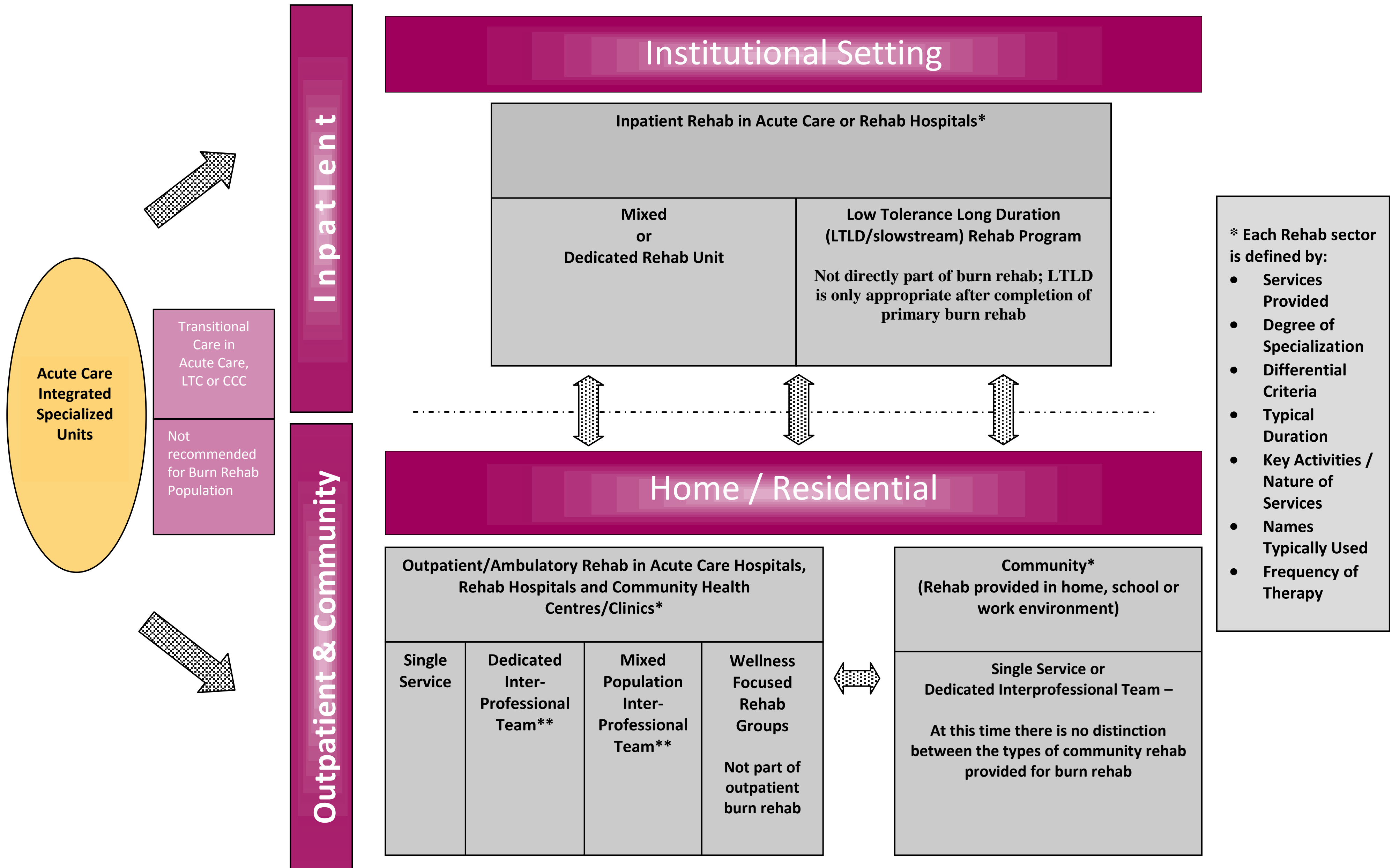
GTA REHAB Network

Burn Rehab Definition Framework



© 2007 GTA Rehab Network. Contents of this publication may be reproduced either whole or in part provided the intended use is for non-commercial purposes and full acknowledgment is given to the GTA Rehab Network.

GUIDING PRINCIPLES

Objective:

I. Increase clarity and consistency in the forms of cognitive and physical rehab across the continuum by:

1. Clarifying the distinctions between and across institutional and community-based rehab programs.
2. Classifying programs with consistent terminology.
3. Describing the key features of institutional and community-based rehabilitation programs based on the services provided, the degree of specialization, differential/critical criteria, duration, and the primary focus of the rehab program/service.

II. Inform planning and performance measurement through the development of standards for rehab program components against which rehab programs can be benchmarked.

Guiding Principles:

1. The Rehab Definitions Conceptual Framework presupposes the World Health Organization's definition of "rehabilitation" as "a *progressive, dynamic, goal-oriented and often time-limited process, which enables an individual with an impairment to identify and reach his/her optimal mental, physical, cognitive and/or social functional level. Rehabilitation provides opportunities for the individual, the family and the community to accommodate a limitation or loss of function and aims to facilitate social integration and independence."*

2. The Rehab Definitions Conceptual Framework refers to cognitive and physical forms of rehabilitation. This includes Acquired Brain Injury behavioural programs and geriatric psychiatry. The rehab conceptual diagram refers to acute care, inpatient rehab programs within institutional settings and outpatient and community-based rehab for clients residing at home or in a residential setting. The use of bi-directional arrows in the schematic reflects the flow of patients and continuity of care across these settings.

3. The framework identifies key features of rehab programs based on evidence-based practices where available to define the "gold standard" of rehab care (e.g. rehab beds are clustered together). In most instances these key features reflect current practices; however, some organizations may be required to implement changes within their organizations to achieve consistency with the criteria set out in the framework.

4. The term "patient" is used for individuals receiving rehabilitation in a hospital setting. The term "client" is used to refer to individuals receiving community rehab services.

5. The Rehab Definitions Conceptual Framework uses categories that have been defined based on the rehab needs of the patient and the typical services provided. Length of stay or the type of facility in which the rehab is provided is not considered essential to defining rehab sectors.

6. The Rehab Definitions Conceptual Framework is based on the assumption that clients participating in the programs described have rehab potential and rehab goals. For criteria regarding rehab potential, medical stability and rehab readiness for inpatient rehab, refer to the GTA Rehab Network's Inpatient Rehab Referral Guidelines (www.gtarehabnetwork.ca).

7. The framework uses terminology that is consistent with the MOHTLC guidelines for inpatient rehabilitation beds and can be applied to community and ambulatory service delivery.

8. While it is appreciated that much of rehabilitation occurs in third-party payer assessment centres or private clinics, the framework refers to publicly-funded rehabilitation. However, it is hoped that the framework will promote consistency in standards of care and equitable access across all rehab programs.

9. Input from healthcare providers representing acute care, regional rehab centres and community-based organizations that provide adult (including geriatric) and paediatric rehab has been obtained to validate the Rehab Definitions Conceptual Framework.

10. The Burn Rehab Definitions Framework will be reviewed every 3 years to incorporate any newly emerging research in burn rehab.

GLOSSARY OF REHAB COMPONENT TERMS

Core Team: Refers to the team members who are essential, actively involved in the assessment and treatment of burn patients on the unit and who participate regularly in team rounds.

Consultation: Consultation would be expected to be available within 24 hours in acute care and 48 hours in rehab.

Dedicated Interprofessional Team (Community): Rehab provided in the home, school or work environment by an interdisciplinary team using a coordinated, integrated approach for specific rehab populations or to reduce the impact of a particular disability.

Dedicated Interprofessional Team (Outpatient/Ambulatory Rehab): Outpatient rehab provided by an interdisciplinary team with expertise in the treatment and assessment of a particular patient population. Outpatient/Ambulatory dedicated interprofessional teams are located in acute care hospitals, rehab hospitals and community health centres/clinics. They provide rehab to patients who require more than one rehab service and a coordinated rehab approach.

Dedicated Rehab Unit: An inpatient rehab unit located in acute care and rehab hospitals that serves a single patient population group and provides intensive rehabilitation. Some units may specialize in more than one diagnosis in related populations (e.g. Cardio/Respiratory, Orthopaedic/Amputation, etc.). A dedicated rehab unit is suitable for individuals who require 24-hour hospital care and who are in need of an interdisciplinary rehab program using a coordinated rehab approach.

Low Tolerance Long Duration (LTLD/slowstream) Rehab Program: Suitable for individuals in need of an interprofessional rehab approach to address specific rehab goals who also have chronic/complex conditions requiring 24-hour hospital care and who are expected to benefit from a slower-paced rehab program for a longer duration than is offered in dedicated or mixed rehab programs. LTLD rehab is most commonly delivered in a complex continuing care bed but may also be provided in a designated rehab bed. LTLD rehab programs may be located in acute care, rehab or complex continuing care hospitals.

Mixed Population Interprofessional Team (Outpatient/Ambulatory Rehab): Outpatient rehab that is provided by an interdisciplinary team, which typically assesses and treats patients from a variety of patient population groups. Outpatient/Ambulatory mixed population interprofessional teams are located in acute care hospitals, rehab hospitals and community health centres/clinics. They provide rehab to patients who require more than one rehab service and a coordinated rehab approach.

Mixed Rehab Unit: Formerly referred to as a General inpatient rehab unit, this type of unit is located in acute care and rehab hospitals, provides intensive rehabilitation and serves a variety of patient population groups. The mixed rehab unit is suitable for individuals who require 24-hour hospital care and are in need of an interdisciplinary rehab program using a coordinated approach.

Single Service (Community): Individual rehab services that are usually provided through Community Care Access Centres. Single rehab services are suitable for individuals who are in need of one or more rehabilitation services in single specialty area(s)/profession(s) provided in the home, school or work environment. Although clients may receive more than one service, a coordinated approach is not used as rehab providers typically work as individual providers. However, some communication with other health providers may occur on an as-needed basis.

Single Service (Outpatient/Ambulatory Rehab): An outpatient rehab service located in acute care hospitals, rehab hospitals and community health centres/clinics that is suitable for individuals who are in need of an outpatient rehabilitation service in a single specialty area/profession. Clients may receive more than one rehab service; however, the services are not provided by way of a coordinated rehab approach. Services may include assessment only or assessment and treatment. Services may be provided during a one-time visit or multiple visits.

Wellness Focused Rehab Groups: These groups are provided in an outpatient/ambulatory setting and led by an individual rehab provider or team or rehab specialists to enhance an individual's ability to cope with a particular disability or impairment. These time-limited groups are publicly-funded although a small fee may be charged for materials.

<table>
<tr><th colspan="2">ACUTE CARE
Integrated Specialized Units</th></tr>
<tr><td>Names Typically Used</td><td>• Burn Unit; Intensive Care Unit; Plastic Surgery Unit; Surgical Unit; Trauma Unit</td></tr>
<tr><td>Services Provided</td><td>• Core team[1] available include: (in concert with recommendations from the American Burn Association): clinical dietitian, clinical nurse specialist, clinician/case coordinator, nurse, occupational therapist, pain service, pharmacist, physician services (e.g. anaesthetist, surgeons (plastics, general, trauma, etc), paediatrician), physiotherapist, respiratory therapist, social worker
• Consult services[2] available include: chaplain/pastoral care provider, child life specialist (peds only), orthotist and/or prosthetist, palliative care, peer support services, pressure therapy consultant (within the team or external to the team), psychiatrist, psychologist, speech language pathologist, Suspected Abuse and Neglect (SCAN) team (peds only).
• A coordinated interdisciplinary team provides services focussed on assessment of rehabilitation needs and early treatment as described below</td></tr>
<tr><td>Specialization</td><td>• Specialized Burn Care; team has established competency in burn care. Specifically, the following competencies are met through the combined skill set of the core team, though an individual team member may not possess all of them:
◦ Ability to assess and manage respiratory issues (e.g. inhalation injuries)
◦ Ability to assess and manage complex medical needs secondary to the burn
◦ Understanding of edema management
◦ Understanding of basic wound care principles
◦ Ability to monitor skin health, particularly related to grafting
◦ Understanding of precautions during each phase of wound healing
◦ Ability to effectively maintain tissue length using scar and contracture management strategies (e.g. ROM, splinting, pressure therapy)
◦ Understanding of pain medications, types of pain management and ability to liaise with the team re: impact of pain on rehab
◦ Understanding of the cognitive behavioural management of pain
◦ Ability to effectively educate the patient on pain management and the relationship between pain management and rehab
◦ Understanding of how and when to grade pressure and when custom pressure garments are indicated
◦ Understanding of long term management of burn rehabilitation and prognosis
◦ Understanding of when/how to liaise or consult with other professionals in regards to burn rehab
• Where patient volumes do not meet critical levels as outlined by the American Burn Association[3] <u>and</u> where all of the above listed competencies are not present, the interdisciplinary team should have regular access to clinical support in decision making from a regional burn centre (e.g. by videoconferencing)</td></tr>
<tr><td>Differentiating Criteria</td><td>• All patients with burn injuries who require treatment to avoid respiratory deterioration, prevent deformities and manage pain. For the paediatric population this may include issues related to intake.
• Serious burn injury including the criteria as identified by the American Burn Association[4]</td></tr>
<tr><td>Initiation of Rehab</td><td>• In acute care, basic rehabilitation activities, including splinting/positioning in anti-deformity positions, should begin as soon as possible after injury[5]
• If a burn patient need to be transferred to a different level of rehab, they are determined to be transfer ready when the following criteria do not preclude participation in activities:</td></tr>
</table>

ACUTE CARE Integrated Specialized Units		
	◦ Stable respiratory status ◦ Majority of wounds closed or the presence of wounds does not preclude participation in rehab ◦ Pain is controlled ◦ Able to sit at bedside and able to participate in rehab ◦ No major grafting/surgery needed ◦ Nutritional needs are met (including supplemental feeding method begun if needs not met through oral feeding alone). ◦ Medically stable as defined in GTA Rehab Network Rehab Readiness Guidelines[6]: • A clear diagnosis and co-morbidities have been established. • At the time of discharge from acute care, acute medical issues have been addressed; disease processes and /or impairments are not precluding participation in the rehab program • Patients' vital signs are stable • No undetermined medical issues (e.g. excessive shortness of breath, falls, congestive heart failure) • Medication needs have been determined	
Key Activities / Nature of Service	FOR THE SYSTEMICALLY ILL PATIENT: • Focussed on interprofessional assessment to determine breadth of rehabilitative needs and intensity of therapy required • Nursing care supports rehabilitation through positioning and pain control • Frequency of therapist involvement: up to 2-3 times per day[7], in conjunction with pain management • Range of motion • Pain management • Splinting and positioning (e.g. with rolls) to prevent contractures • Edema management • Establish relationship with family and patient and provide of emotional support • Family education around course of treatment as pertains to rehabilitation • Assessment for appropriateness of scar management (e.g. pressure therapy) with appropriate referrals • Weekend rehabilitation services are available to those who have a medical need (e.g. based on severity of burn, risk of developing contracture); no more than 24hours between therapy sessions • Establish appropriate seating and positioning is established (e.g. sitting up in Stryker chair/wheelchair)	FOR THE PATIENT WITH NON-SYSTEMIC INJURY: • Focussed on interprofessional assessment to determine breadth of rehabilitative needs and intensity of therapy required • Nursing care supports rehabilitation through positioning and pain control • Frequency of therapist involvement: up to 2-3 times per day[8], in conjunction with pain management • Range of motion (ROM); patient should be taught ROM exercises to be continued on a daily basis independently (or by parents when applicable and appropriate) • Pain management • Splinting and positioning (e.g. with rolls) to prevent contractures • Edema management • Establish relationship with family and patient and provide of emotional support • Family education around course of treatment as pertains to rehabilitation • Assessment for appropriateness of scar management (e.g. pressure therapy) with appropriate referrals • Weekend rehabilitation services are available to those who have a medical need (e.g. based on severity of burn, risk of developing contracture); no more than 24hours between therapy sessions • Independent stretching program to be taught to patients and their family

ACUTE CARE Integrated Specialized Units		
	• Assessment for appropriate pressure relief surface (e.g. mattress) • Appropriate turning schedule is established to minimize and heal wounds • Support of respiratory function	• Mobility – transfer training and ambulation • Sensory evaluation and accommodation • ADL – assessment and intervention for feeding (as needed) and functional activities • Pruritis is addressed • Discharge planning – consultation and referrals to in- or outpatient rehabilitation or community services (as needed)

TRANSITIONAL CARE Not appropriate for this population: Burn patients should be transferred directly to Inpatient Rehab, or discharged to the community with outpatient or community-based rehabilitation referrals as needed

INPATIENT REHAB LTLD is not appropriate for a patient requiring intensive burn rehab, regardless of existing co-morbidities. The intensity of rehab required for a burn injury cannot be met in an LTLD program. Recognizing that existing co-morbidities may be exacerbated by a burn injury, an LTLD rehab program may be considered for patients with existing co-morbidities once the active phase of burn rehab is completed	
Dedicated Burn Rehab Unit / Mixed Rehab Units in Rehab and Community Hospitals Suitable for individuals in need of an interdisciplinary burn rehab program and also require 24-hour hospital care	
Typical Names	• Burn Rehabilitation Program or Mixed Inpatient Rehabilitation Program
Services Provided	• An interdisciplinary team provides rehab; the core team[9] includes: ○ child life specialist (peds only) ○ clinical dietitian ○ discharge planner (this role may be fulfilled by one of the other core team members) ○ nurse ○ occupational therapist ○ physician ○ physiotherapist ○ psychosocial services specialized in burn rehab (e.g. through psychology, social worker, psychiatrist, trained nursing staff) ○ social worker • Consult services[10] may include: ○ chaplain/ pastoral care provider ○ child and youth worker (peds only) ○ massage therapist ○ orthotist ○ pain service ○ pharmacist ○ pressure therapy consultant within the team or external to the team who has expertise in measuring and fitting garments ○ prosthetist ○ psychiatrist ○ speech language pathologist ○ therapeutic recreationist ○ trained or screened peer visitor ○ vocational counsellor (adults only) • This is an intensive rehab program which provides at least 2 therapy sessions a day, with consideration for location and extensiveness of the burn and the

INPATIENT REHAB LTLD is not appropriate for a patient requiring intensive burn rehab, regardless of existing co-morbidities. The intensity of rehab required for a burn injury cannot be met in an LTLD program. Recognizing that existing co-morbidities may be exacerbated by a burn injury, an LTLD rehab program may be considered for patients with existing co-morbidities once the active phase of burn rehab is completed	
Dedicated Burn Rehab Unit / Mixed Rehab Units in Rehab and Community Hospitals Suitable for individuals in need of an interdisciplinary burn rehab program and also require 24-hour hospital care	
	risk of contracture development; intensity of therapy will change over the course of rehab according to the changing needs of the patient.. • Scar and contracture management is supported through all activities and by all team members, including the patient and family, 24 hours/day, 7 days/week • Staffing ratios on the unit must support daily therapy: there should be no more than 24 hours between therapy sessions[11] • Services may be supplemented by OTA/PTA/CDA/PSW± under the direct supervision of respective health care professionals (e.g., OT directing OTA) as legislated by their respective colleges; however, overall care is directed by a regulated health professional who is competent in burn rehab.

Specialization	• Rehab providers must have established competency in the assessment and treatment of burn injuries[12].
	• The following competencies are met through the combined skill set of the core team, though an individual team member may not possess all of them:
	  ○ Understanding of basic wound care principles and ability to monitor skin health, particularly related to grafting
	  ○ Understanding of precautions during each phase of wound healing
	  ○ Ability to effectively maintain tissue length using scar and contracture management strategies (e.g. ROM, splinting, pressure therapy)
	  ○ Understanding of pain medications, types of pain management and ability to liaise with the team re: impact of pain on rehab
	  ○ Understanding of the cognitive behavioural management of pain and ability to effectively educate the patient on pain management and the relationship between pain management and rehab
	  ○ Understanding of how and when to assess for custom pressure garments and other scar management modalities
	  ○ Understanding of long term management of burn rehabilitation and prognosis
	  ○ Understanding of when/how to liaise or consult with other professionals in regards to burn rehab
	• Where burn patient volumes are so low that competency cannot be maintained, the interdisciplinary team should have regular access to clinical support in decision making from a regional burn centre (e.g. by videoconferencing)[13]
	• If on a mixed population unit, the following conditions are met:
	  ○ Therapists specialized in burn rehab travel to this unit to treat their own patients, or consult with the treating therapist as appropriate.
	  ○ Burn patients are housed in geographically clustered beds
	• Burn Team is an interprofessional rehab team with expertise in burn rehab and access to training to develop and maintain necessary skills and knowledge[14]

Differentiating Criteria	• Coordinated team approach[15] with regular team meetings/conferences. • A mechanism is in place for communication of patient goals and concerns with team • Patients and families are encouraged to participate in team meetings regarding care and discharge planning • Expectation is that patients will either be discharged home or to their preferred accommodation in the community; patients with serious co-morbidities

INPATIENT REHAB LTLD is not appropriate for a patient requiring intensive burn rehab, regardless of existing co-morbidities. The intensity of rehab required for a burn injury cannot be met in an LTLD program. Recognizing that existing co-morbidities may be exacerbated by a burn injury, an LTLD rehab program may be considered for patients with existing co-morbidities once the active phase of burn rehab is completed	
Dedicated Burn Rehab Unit / Mixed Rehab Units in Rehab and Community Hospitals Suitable for individuals in need of an interdisciplinary burn rehab program and also require 24-hour hospital care	

	who require ongoing rehabilitation may be transferred to an LTLD program to continue therapy once inpatient burn rehab is complete
	• Where a client has more than one rehab need (e.g. Burn and Geriatrics, Burns and Mental Health) there is a mechanism in place to cross consult to another rehab service to acquire expertise. Specifically mechanisms of cross consultation should be available for:
	  ◦ Burns and traumatic brain injury
	  ◦ Burns and amputees
	  ◦ Burns and mental health/psychiatric programs/comprehensive psychiatric care[16]

Typical Duration	• As strong evidence regarding LOS does not currently exist, benchmarks for duration are not being included in this framework. Ideally, the length of stay is not constrained by a maximum duration, but is linked to the patient's needs and goals.

Key Activities/ Nature of Service	• Intense interdisciplinary rehabilitation should be a continuation of program begun during acute care phase; patients admitted to this program have ongoing, complex rehab and surgical needs and/or infection control issues.
	• Areas to be addressed by the team should include:
	  ◦ Monitoring of depression and coping
	  ◦ Preparation for self-management of routine burn care/rehab
	  ◦ Preparation for discharge including: school re-integration, transportation, social supports
	  ◦ Medium and long term risk of contractures
	  ◦ Endurance: ability to manage therapy and ADLs/IADLs
	  ◦ Long term financial management and vocational issues (adults only)
	  ◦ Other issues as identified by client/family
	• OT and PT occur daily and may include one or more of the following activities, based on patient needs**:** ROM and modification of splinting as required to prevent contractures; fitting for pressure garments or other scar management modalities to prevent hypertrophic scarring; assessment of ADL ability and modification of tasks as needed to maximize independence and prepare for discharge; assessment of developmental milestones as appropriate; ambulation and strength training to increase muscle mass[17];
	• Wound care continues, led by nursing and medical staff
	• Management of pruritis (itching)
	• Education on and reinforcement of a routine for splinting, stretching.
	• Education re: trauma reaction, body image (e.g. by Psychology, Social Work).
	• Link patient with individual level support (e.g. trained burn survivor who acts as a peer support[18]) and/or group support as appropriate (e.g. Phoenix Society, burn summer camp for school aged children)

INPATIENT REHAB LTLD is not appropriate for a patient requiring intensive burn rehab, regardless of existing co-morbidities. The intensity of rehab required for a burn injury cannot be met in an LTLD program. Recognizing that existing co-morbidities may be exacerbated by a burn injury, an LTLD rehab program may be considered for patients with existing co-morbidities once the active phase of burn rehab is completed	
Dedicated Burn Rehab Unit / Mixed Rehab Units in Rehab and Community Hospitals Suitable for individuals in need of an interdisciplinary burn rehab program and also require 24-hour hospital care	
Key Activities/ Nature of Service (cont.)	• Psychology and Social Work involvement at this phase to deal with trauma, anxiety, depression, grief, guilt, and insomnia, especially with discharge planning. • Assessment of cognitive function should occur for those patients who are at risk (e.g. electrical injury, concomitant brain injury, premorbid condition) • Social work and Psychology to provide family counselling as needed • Nutritional assessment and treatment daily – use of calorimetry to determine energy requirements; appropriate method of feeding maintained based on severity of injury and ability to feed enterally • RN would participate in therapeutic goals throughout the day as part of regular nursing care • Where available, school-aged patients should attend school in hospital • Mechanism exists for consultation as needed with the receiving facility/staff members as needed from a Regional Burn Centre[19] • Comprehensive discharge planning including determination of safety at home, a home visit to assess the need for modifications at home, and referrals to appropriate outpatient rehabilitation programs. Discharge planning for school-aged patients should include a school re-entry program. Discharge for pediatric and adult populations should include a minimum of one to two pre-discharge weekend passes • A discharge plan is discussed within 14 days of admission including an estimated discharge date and a provisional discharge destination.

OUTPUTIENT / AMBULATORY REHAB PROGRAMS Note: Wellness focused rehab programs do not exist in burn rehab. These services are provided by community organizations which often do not have rehab programs. These services are typically accessed via self referral or referral from facilitites.		
	Single Service in Acute Care Hospitals, Rehab Hospitals, Children's Treatment Centres and Community Health Centres/Clincs	**Dedicated or Mixed Interprofessional Team in Acute Care Hospitals, Rehab Hospitals and Community Health Centres/Clinics**
	Suitable for burn survivors who are in need of an outpatient rehabilitation service in a single specialty area/profession. Services may include assessment only or assessment and treatment. Services may be provided during a one-time visit or multiple visits.	Suitable for individuals in need of an interdisciplinary burn rehab program (e.g. St. John's Rehabilitation Hospital Burn Rehab Program)[20] An interdisciplinary Burn Rehab team is indicated when two or more of the following modalities are needed for more than two weeks time: • Nursing • Pain Management • Pressure Therapy • Splinting • Skin Care • Social Support (Psych/Counselling) • PT/OT to maximize function Ongoing counselling and education specific to burn care
Names Typically Used	• Usually Outpatient + profession (e.g. Outpatient OT or PT). • Outpatient + specialty area (e.g. Outpatient Hand Program)	• Burn Outpatient Rehabilitation • Day Treatment Program, General Rehab Day Hospital Program
Services Provided	• Varies depending on specialty areas within institution. • Suitable for those who require specific rehabilitation for a specific issue (ongoing management of a hand burn, or decreased ROM in the neck, etc.) • There is communication (ongoing if needed) between the inpatient or acute care therapists and the outpatient therapist • Patient may be seen in single service rehab to address one of the following needs: (a) a specialty service for a specific impairment or disability (e.g. gait, mobility, hand therapy) or (b) general profession-specific assessment, treatment plan recommendations or implementation of treatment plan and/or referral to other service providers (i.e. strength training) Note: Single or specialty service rehab providers will consult with other disciplines/team members as needed	• Program provides a minimum of 60min of therapy per session • Care is provided by an interdisciplinary team. • The core team includes: ◦ discharge planning role (as filled by: social worker, discharge planner/coordinator, patient flow coordinator, etc.) ◦ occupational therapist ◦ physician ◦ physiotherapist ◦ psychosocial services specialized in burn rehab (e.g. through psychology social worker, psychiatrist, trained nursing staff) • Consult services is available from: ◦ chaplain / pastoral care provider ◦ child and youth worker (peds only) ◦ child life specialist (peds only) ◦ clinical dietitian ◦ massage therapist

OUTPUTPATIENT / AMBULATORY REHAB PROGRAMS Note: Wellness focused rehab programs do not exist in burn rehab. These services are provided by community organizations which often do not have rehab programs. These services are typically accessed via self referral or referral from facilitites.		
	Single Service in Acute Care Hospitals, Rehab Hospitals, Children's Treatment Centres and Community Health Centres/Clincs	**Dedicated or Mixed Interprofessional Team in Acute Care Hospitals, Rehab Hospitals and Community Health Centres/Clinics**
		◦ orthotist ◦ pain service ◦ paramedical camouflage consultant ◦ pharmacist ◦ prosthetist ◦ psychiatrist ◦ return to work coordinator / vocational counsellor (adults only) ◦ social worker ◦ speech language pathologist ◦ therapeutic recreationist ◦ trained or screened peer visitor
Specialization	• Some services serve a particular specialty area (e.g. Burn Clinic or Plastics Clinic). • Other services are profession specific which may or may not be specialized for particular interventions or diagnostic groups. • Treating professionals should have experience in burn rehab; in cases where the treating therapist does not have established competencies, she/he has access to support from a Regional Burn Centre[21] • At a minimum, all professionals should have: ◦ An understanding of precautions during each phase of wound healing ◦ The ability to effectively maintain tissue length using scar and contracture management strategies (e.g. ROM, splinting, pressure therapy) ◦ An understanding of when/how to liaise or consult with other professionals in regards to burn rehab	• These programs may involve a team that assesses/treats patients from a variety of diagnostic populations, or the team may be specialized to provide rehab to: (1) Burn survivors with multiple, ongoing rehab needs (2) Reduce the impact of a burn related disability • The core team should have established competency in treating burn patients, including: ◦ Understanding of basic wound care principles and ability to monitor skin health, particularly related to grafting ◦ Understanding of precautions during each phase of wound healing ◦ Ability to effectively maintain tissue length using scar and contracture management strategies (e.g. ROM, splinting, pressure therapy) ◦ Understanding of pain medications, types of pain management and ability to liaise with the team re: impact of pain on rehab ◦ Understanding of the cognitive behavioural management of pain and ability to effectively educate the patient on pain management and the relationship between pain management and rehab ◦ Understanding of how and when to assess for custom pressure garments and other scar management modalities ◦ Understanding of long term management of burn rehabilitation and prognosis

OUTPUTATIENT / AMBULATORY REHAB PROGRAMS Note: Wellness focused rehab programs do not exist in burn rehab. These services are provided by community organizations which often do not have rehab programs. These services are typically accessed via self referral or referral from facilitites.		
	Single Service in Acute Care Hospitals, Rehab Hospitals, Children's Treatment Centres and Community Health Centres/Clincs	**Dedicated or Mixed Interprofessional Team in Acute Care Hospitals, Rehab Hospitals and Community Health Centres/Clinics**
		○ Understanding of when/how to liaise or consult with other professionals in regards to burn rehab • In cases where the treating therapist does not have established competencies, she/he has access to support from a Regional Burn Centre[22]
Differentiating Criteria	• Patients reside in the community with a specific rehab need which may be an impairment, performance, activity or participation issue that requires assessment and/or treatment by a health professional. • Patients may not have required an acute care, inpatient rehab or other outpatient rehab program. • Some patients may be discharged from an inpatient rehab program or from acute care and require ongoing rehab to achieve higher functional goals. • Patients may be referred from family physicians or other health professionals working in the community with new issues post discharge. • In some hospitals, the service is only available for patients of that institution and their physicians. • Typically, these are community patients who are responsible for arranging their own transportation to and from their outpatient appointments.	• Suitable for burn patients, discharged from hospital requiring ongoing rehabilitation to reduce impairment and maximize function at home and in the community or patients already residing in the community who no longer need 24-hour hospital care. • Appropriate for assessing and treating for return to school, work or other occupation. • Co-ordinated services[23] with regular team meetings/conferences. • Typically, these are community patients who are responsible for arranging their own transportation to and from their outpatient appointments. • Patients and families are encouraged to participate in team meetings; mechanisms for communication of goals and plans are established
Typical Duration of Key Services	• Access to Outpatient Rehab program should occur within 72 hours of referral from inpatient/acute care/family physician/emergency dept. for burns to critical areas[24]; for all other burns, access should occur within 7 days • Varies depending on the type of service/program. • Specialty clinics may provide one or several visits until the problem is resolved / managed or until the functional outcome has been reached. • Typical duration of participation in the program is until the patient is able to maintain status independently including managing skin care, exercise and return to work/school	• Access to Outpatient Rehab program should occur within 72 hours of referral from inpatient/acute care/family physician/emergency dept. for burns to critical areas[25]; for all other burns, access should occur within 7 days • Typical duration of participation in the program is until the patient is able to maintain status independently including managing skin care, exercise and return to work/school • For children, the length of stay in a program is contingent upon the family or caregiver being able to manage the child's care as stated above • Can be as long as two years (until scar maturation) • Patients are able to leave and return to the program over months or years as new issues need to be addressed.

OUTPUTPATIENT / AMBULATORY REHAB PROGRAMS Note: Wellness focused rehab programs do not exist in burn rehab. These services are provided by community organizations which often do not have rehab programs. These services are typically accessed via self referral or referral from facilitites.		
	Single Service in Acute Care Hospitals, Rehab Hospitals, Children's Treatment Centres and Community Health Centres/Clincs	**Dedicated or Mixed Interprofessional Team in Acute Care Hospitals, Rehab Hospitals and Community Health Centres/Clinics**
	• For children, the length of stay in a program is contingent upon the family or caregiver being able to manage the child's care as stated above • Patients are able to leave and return to the program over months or years as new issues need to be addressed.	
Key Activities / Nature of Service	• Specialized focused assessment and/or treatment to resolve a functional or psychological issue and to promote re-integration to community living or to maximize functional level. • These services/programs may be publicly funded or privately funded • All of the following services are provided, if required by the patient: re-fitting pressure garments, modify splints, contracture management in a specific joint; strength training for lost muscle mass and functional ability (e.g. through short bursts of therapy); regular stretching and strengthening program; modalities; scar massage and management • If the referring facility has not already done so, patients may be referred to other services for ongoing care (e.g. inpatient rehab, wellness programs, other support programs) as appropriate. • If the referring facility has not already done so, patients are linked with individual level support (e.g. trained burn survivor who acts as a peer support[26]) and/or group support as appropriate (e.g. Phoenix Society, burn summer camp for school aged children)	• Specialized focused assessment and/or treatment to resolve a functional or psychological issue and to promote re-integration to community living or to maximize functional level • Interventions goal directed. • The program could be delivered in a group format or on an individual basis • All of the following services are provided, if required by the patient: re-fitting pressure garments, modify splints, contracture management in a specific joint; strength training for lost muscle mass and functional ability (e.g. through short bursts of therapy); regular stretching and strengthening program; modalities; scar massage and management • Education and information is ongoing through this program with the goal that patients take responsibility for their rehabilitation including exercises, adherence to splinting and pressure garment protocol, and maximizing independence in ADLs. Also, education around continued healing of wounds and signs of problems monitored • Vocational counselling and an assessment of workplace should occur at this stage • If the referring facility has not already done so, patients may be referred to other services for ongoing care (e.g. inpatient rehab, wellness programs, other support programs) • If the referring facility has not already done so, patients are linked with individual level support (e.g. trained burn survivor who acts as a peer support[27]) and/or group support as appropriate (e.g. Phoenix Society, burn summer camp for school aged children)

COMMUNITY REHAB Single Service of Dedicated Interprofessional Team (At this time, there is no distinction between the types of community rehab provided for burn rehab)	
Community rehab is most appropriate for clients who can be safely supported at home and **1. Whose rehab needs are sufficiently small that they do not require other services (e.g. did not require inpatient rehab)** **2. Who cannot otherwise access required in- or outpatient services due to safety, transportation, medical or social issues**	
Names Typically Used	• Community Care Access Centre (CCAC)
Services Provided	• The following professionals are available based on patient needs: OT, PT, SLP, SW, Nursing, Case Management and Physician • If both OT and PT are required, both are provided; where this is not possible, the community provider communicates back to the referring facility. • Clients may receive more than one service. • Rehab providers typically work as individual providers; however, communication with other health providers occurs on an as-needed basis. • CCACs provide in-home rehab services through contracts with Provider Agencies and manage clients through a Case Management collaborative model.
Specialization	• Health professionals may have experience in a particular diagnostic group or area (e.g. MSK, paediatrics) • Community providers must communicate with the referring regional burn centre for consultation and/or support as needed if rehab required goes beyond basic community rehab (e.g. home safety)
Differential Criteria	• Service is provided in the environment that is most appropriate (e.g. client is home-bound; services are focused on school re-integration or vocational return).
Typical Duration	• Services are provided within 7 days from date of referral**.** Where services cannot be provided within 7 days from date of referral, the community provider communicates back to the referring facility. • Patients are discharged when they have achieved their discharge outcome (functional goals), or are able to access appropriate community resources (e.g. outpatient services), or they have reached a plateau, rather than based on a maximum number of visits.
Key Activities / Nature of Service	• Assessments, treatment, discharge planning to community activities (e.g. CCAC). • Referral to disease or population-specific wellness programs that provide health education, goal setting, behaviour change principles and practices to promote health and wellbeing of the individual; secondary prevention may be offered. • The primary goal in community rehab is the ongoing re-integration of a person back to their activities, roles and environment. • Psychosocial aspects of re-integration are emphasized. • If the referring facility has not already done so, patients are linked to other services for ongoing care (e.g. inpatient rehab, wellness programs, other support programs) as appropriate. • If the referring facility has not already done so, patients are linked with individual level support (e.g. trained burn survivor who acts as a peer support[28]) and/or group support as appropriate (e.g. Phoenix Society, burn summer camp for school aged children)

APPENDIX A: DEFINITIONS

1. **Degree of Burn** - superficial , superficial partial thickness, deep partial thickness and full thickness

Classification	Cause	Appearance	Sensation	Healing time	Scarring
Superficial burn	Ultraviolet light, very short flash (flame exposure)	Dry and red; blanches with pressure	Painful	3 to 6 days	None
Superficial partial-thickness burn	Scald (spill or splash), short flash	Blisters; moist, red and weeping; blanches with pressure	Painful to air and temperature	7 to 20 days	Unusual; potential pigmentary changes
Deep partial- thickness burn	Scald (spill), flame, oil, grease	Blisters (easily unroofed); wet or waxy dry; variable color (patchy to cheesy white to red); does not blanch with pressure	Perceptive of pressure only	More than 21 days	Severe (hypertrophic) risk of contracture
Full-thickness burn	Scald (immersion), flame, steam, oil, grease, chemical, high-voltage electricity	Waxy white to leathery gray to charred and black; dry and inelastic; does not blanch with pressure	Deep pressure only	Never (if the burn affects more than 2 percent of the total surface area of the body)	Very severe risk of contracture

From Morgan, E., Blesdoe, S., and Barker, J. (2000). Ambulatory Management of Burns. *American Family Physician.*

2. Scar management

When skin is damaged by a partial or full-thickness burn, the normal pressure of the epidermis exerted on the dermal, or underlying, layer of skin is removed. The lack of pressure causes scar tissue to rapidly generate in irregular patterns. This uncontrolled scarring can persist for months following a burn injury and it can worsen over time. To minimize the scarring response to a burn, multiple modalities may be used such as pressure therapy, gel sheeting or surgical procedures.

From Malik, M. and Carr, J. Manual on Management of the Burn Patient, p.133

3. Pressure Therapy

Pressure is often applied to a healing burn in the form of pressure therapy. This involves a careful treatment of tight-fitting garments engineered to apply a specific amount of pressure to the burned skin. The garments are worn day and night until the wounds mature in order to help prevent hypertrophic scarring. There are other types of pressure therapy as well; these include uvex masks, the use of inserts and koban wrapping.
From Malik, M. and Carr, J. Manual on Management of the Burn Patient, p.133.

4. Pressure Garments/Devices

Healthcare professionals use custom designed pressure garments to apply specific pressure over healing burns. The garments are constructed with a controlled amount of pressure engineered into the garment, which mimics the pressure of healthy skin to reduce the development of irregular scarring. Pressure garments are custom measured, engineered, and designed for each individual patient and burn area.
From Malik, M. and Carr, J. Manual on Management of the Burn Patient, p.133.

5. Paramedical Camouflage Consultant

A person with specialized training in blending pigments and applying corrective cosmetics to match the unburned skin.
Personal communication, Nisha Umraw, OT Reg. (Ont.) as adapted from Ross Tilley Burn Centre *Going Home* booklet

APPENDIX B: CONTACT INFORMATION FOR ORGANIZATIONS ON THE BURN REHAB DEFINITIONS TASK GROUP

Organization	General contact info
Bloorview Kids Rehab	Main Phone Line: 416.425.6220 Specialized Orthopedic and Developmental Rehab program: ext. 6621
Children's Hospital of Eastern Ontario	Main Phone Line: 613.737.7600 Occupational Therapy: ext. 2500 Physical Therapy: ext. 2702 Plastic Surgery Clinic: ext. 2326
Hamilton Health Sciences Centre	Main Phone Line: 905.521.2100 Burn Trauma Unit: ext. 46350
London Health Sciences Centre	Main Phone Line: 519.685.8500 Physiotherapy (Victoria Hospital): ext. 58117 Burn Unit (Victoria Hospital): ext. 57079
The Ottawa Hospital	Main Phone Line: 613.737.8899 ext. 75311
Recovery Garments	Main Phone Line: 416.762.3327
Sick Kids Hospital	Rehabilitation: 416.813.6755
St. John's Rehab Hospital	Main Phone Line: 416.226.6780 Inpatient Rehab – OT: ext. 7120 Inpatient Rehab – PT: ext. 7123 Outpatient Rehab: ext. 6948 Back on Track (3rd party payer outpatient rehab): ext. 7019
Sunnybrook Hospital	Burn Unit: 416.480.6814
Timmins & District Hospital	General Rehab: 705.267.6394
Thunder Bay	Rehabilitation Services: 807.684.6270

Endnotes

[1] Core team refers to the team members who are essential, actively involved in the assessment and treatment of burn patients on the unit and who participate regularly in team rounds.

[2] Consultation is expected to be available within 24 hours in acute care and within 48 hours in rehab.

[3] Criteria for verification of a Burn Centre by the ABA: "The burn center must admit an average of 100 or more patients annually, with acute burn injuries averaged over 3 years; The burn center must maintain an average daily census of 3 or more patients with acute burn injuries"
American Burn Association & American College of Surgeons, Committee on Trauma. (2006). Guidelines for the Operation of Burn Centres.
http://www.ameriburn.org/Chapter14.pdf

[4] Criteria include: Partial-thickness burns of greater than 10% of the total body surface area; Burns that involve the face, hands, feet, genitalia, perineum, or major joints; Third-degree burns; Electrical burns, including lightning injury; Chemical burns; Inhalation injury; Burn injury in patients with pre-existing medical disorders that could complicate management, prolong recovery, or affect mortality.
American Burn Association & American College of Surgeons, Committee on Trauma. (2006). Guidelines for the Operation of Burn Centres.
http://www.ameriburn.org/Chapter14.pdf

[5] "For every member of the burn team, rehabilitation must start from the time of injury….Edema management, respiratory management, positioning and engaging patient in functional activities and movement must start immediately"
Edgar, D. and Brereton, M. (2004). The ABC of burns: Rehabilitation after burn injury. British Medical Journal; 329, 343-345.

[6] GTA Rehab Network. (2009). Inpatient Rehab/LTLD Referral Guidelines.

[7] "Physiotherapy treatment sessions of 30-45 minutes, 2-3 times per day as part of the more intensive burn rehab protocol"; in this study, of the experimental group receiving more
intensive rehabilitation, only 6% suffered burn scar contractures, compared to the control group, who received physiotherapy once per day, of whom 73% suffered burn scar contractures
Okhovatian, F. and Zoubine, N. (2007). A comparison between two burn rehabilitation protocols. Burns, 33, 429–434.

[8] Okhovatian, F. and Zoubine, N. (2007). A comparison between two burn rehabilitation protocols. Burns, 33, 429–434.

[9] Core Team refers to the team members who are essential, actively involved in the assessment and treatment of burn patients on the unit.

[10] Consultation is expected to be available within 24 hours in acute care and within 48 hours in rehab.

[11] "The therapist must regularly assess the burn and develop an appropriate plan from admission to scar maturation including: regularly observe undressed burns, preferably daily, and mobilize….assess joint ranges of affected areas, daily…"
Simons, M., King, S., and Edgar, D. (2003). Occupational therapy and physiotherapy for the patient with burns: Principles and management guidelines. Journal of Burn Care and Rehabilitation, 24, 323-335.

[12] "The therapist must continue to update his/her knowledge of burn wound pathophysiology and current trends in burn patient management….The therapist needs to demonstrate awareness of the potential deleterious effect of therapy regimens if incorrectly applied or not applied in a timely manner…The therapist must consistently assess the stage of wound healing and identify the appropriate time for implementing scar management techniques."
Simons, M., King, S., and Edgar, D. (2003). Occupational therapy and physiotherapy for the patient with burns: Principles and management guidelines. Journal of Burn Care and Rehabilitation, 24, 323-335.

[13] "Therapists working outside a specialist burn unit are encouraged to liaise closely with their colleagues within the specialist burn units for advice and support in burn patient therapy management."
Simons' M., King, S., and Edgar, D. (2003). Occupational therapy and physiotherapy for the patient with burns: Principles and management guidelines. Journal of Burn Care and Rehabilitation, 24, 323-335.

[14] " There must be a competency based burn therapy orientation program for all new staff assigned to the burn centre…Burn centre (clinical staff) must be provided with a minimum of two burn related continuing education opportunities annually….The primary burn therapist must have annual participation in 16 hours or more of burn related education."
American Burn Association & American College of Surgeons, Committee on Trauma. (2006). Guidelines for the Operation of Burn Centres.
http://www.ameriburn.org/Chapter14.pdf

[15] "It is generally perceived that the optimum of care of severe burns should have a specifically organized, highly expert clinical and coordinated team approach. Care must be provided over extended periods, involve many specialists and should address long term as well as immediate care issues".
Dimick, A., Cope, D., Barillo, D., Gillespie, R., and Mozingo, D. (2005). Report on a more rational approach to managed care for burns. Journal of Burn Care and Rehabilitation, 26(1), 14-18.

[16] " Forty three percent of burn patients reporting a psychiatric, alcohol or drug abuse history"
Sliwa, J.A., Heinemann, A., and Semik, P. (2005). Inpatient rehabilitation following burn injury: Patient demographics and functional outcomes. Archives of Physical Medicine and Rehabilitation, 86, 1920-1923.

[17] Edgar, D. and Brereton, M. (2004). The ABC of burns: Rehabilitation after burn injury. British Medical Journal; 329, 343-345.

[18] The peer supporter should be assessed by the team prior to involvement with the patient and be trained in peer support services.

[19] Transfer of patients to treating therapists/team without intimate knowledge of the patient and/or burn care must receive training and teaching in the specific care of that patient. This consult session(s) ideally happens on a face to face basis but may also be via telemedicine when it is impossible to travel to the client's destination.

[20] A dedicated interdisciplinary Burn Rehab team is indicated when two or more of the following modalities are needed for more than two weeks time: (1) Nursing; (2) Pain Management; (3) Pressure Therapy; (4) Splinting; (5) Skin Care; (6) Social Support (Psych/Counselling); (7) PT/OT to maximize function; (8) Ongoing Reassurance/Education.

[21] Regional Burn Centres are defined as per the American Burn Association, Guidelines for the Operation of Burn Centres (http://www.ameriburn.org/Chapter14.pdf). In Ontario, the adult burn rehab centres are: Sunnybrook Health Sciences Centre, St. John's Rehabilitation Hospital, Hamilton Health Sciences Centre, London Health Sciences Centre and The Ottawa Hospital. The pediatric burn rehab centres are: Hospital for Sick Children, Children's Hospital of Eastern Ontario, Hamilton Health Sciences Centre and London Health Sciences Centre.

[22] Regional Burn Centres are defined as per the American Burn Association, Guidelines for the Operation of Burn Centres (http://www.ameriburn.org/Chapter14.pdf). In Ontario, the adult burn rehab centres are: Sunnybrook Health Sciences Centre, St. John's Rehabilitation Hospital, Hamilton Health Sciences Centre, London Health Sciences Centre and The Ottawa Hospital. The pediatric burn rehab centres are: Hospital for Sick Children, Children's Hospital of Eastern Ontario, Hamilton Health Sciences Centre and London Health Sciences Centre.

[23] "It is generally perceived that the optimum of care of severe burns should have a specifically organized, highly expert clinical and coordinated team approach. Care must be provided over extended periods, involve many specialists and should address long term as well as immediate care issues".
Dimick, A., Cope, D., Barillo, D., Gillespie, R., and Mozingo, D. (2005). Report on a more rational approach to managed care for burns. Journal of Burn Care and Rehabilitation, 26(1), 14-18.

[24] Critical Areas: "Burns that involve the face, hands, feet, genitalia, perineum or major joints"
American Burn Association & American College of Surgeons, Committee on Trauma. (2006). Guidelines for the Operation of Burn Centres.
http://www.ameriburn.org/Chapter14.pdf

[25] Critical Areas: "Burns that involve the face, hands, feet, genitalia, perineum or major joints"
American Burn Association & American College of Surgeons, Committee on Trauma. (2006). Guidelines for the Operation of Burn Centres.
http://www.ameriburn.org/Chapter14.pdf

[26] The peer supporter should be assessed by the team prior to involvement with the patient and be trained in peer support services.

[27] The peer supporter should be assessed by the team prior to involvement with the patient and be trained in peer support services.

[28] The peer supporter should be assessed by the team prior to involvement with the patient and be trained in peer support services.

The GTA Rehab Network would like to acknowledge the members of the Burn Rehab Definitions Task Group for their contribution to the development of the Burn Rehab Definitions Conceptual Framework:

Dr. Joel Fish, *Chair*	St. John's Rehab Hospital
Billie Alagas	St. John's Rehab Hospital
Dana Dreisman	Bloorview Kids' Rehab
Jennifer Fenton	Hospital for Sick Children
Vera Fung	St. John's Rehab Hospital
Dr. Paula Gardner	St. John's Rehab Hospital
Roberta Harris	Recovery Garment Centre
Jamil Lati	Hospital for Sick Children
Nives McDonald	The Ottawa Hospital
Denette Pacifico	Thunder Bay Regional Health Sciences Centre
Barbara Panturescu	St. John's Rehab Hospital
Holly Patterson	Hamilton Health Sciences Centre
Shira Petcho	St. John's Rehab Hospital
Gwen St. John	London Health Sciences Centre
Barbara Szelinski-Scott	Children's Hospital of Eastern Ontario
Sue Turcotte	Timmins and District Hospital
Nisha Umraw	Sunnybrook Health Sciences Centre
Terrence Yuen	St. John's Rehab Hospital
Charissa Levy	GTA Rehab Network
Hannah Seo	GTA Rehab Network

© 2007 GTA Rehab Network. Contents of this publication may be reproduced either whole or in part provided the intended use is for non-commercial purposes and full acknowledgment is given to the GTA Rehab Network.