FRIDAYS
AT THE UNIVERSITY

Wound Care Day
March 3, 2023 | 0755 - 1600

AGENDA

Earn up to 6.75 MAINPRO+ CREDITS
6.75 MOC SECTION 1 CREDITS Click here for full details

0755 Introduction and land acknowledgement | **Kirsten Bourque RN**

0800 Diabetes and the Diabetic Foot: A Global Perspective | **Andrew Boulton MD**

0815 The Truth Behind Wound Dressings | **Frances Game MD**

0830 Amputee Rehabilitation: Setting Realistic Goals & Striving for Success | **Patrick Gross BPt**

0845 **Q & A Panel Discussion**

0900 Economic Impact of Wounds and Wound Care | **Maria Cendou MSA & Ed Buchel MD**

0915 Demystifying Wound Care | **Christian Petropolis MD**

0930 Soft Tissue Closure: Negative Pressure Wound Therapy, Flaps, Grafts, and Secondary Intention | **Leif Sigurdson MD**

0945 **Q & A Panel Discussion**

1000 Ostomies: All You Need to Know | **Tina Rutledge RN, Ramzi Helewa MD**

1015 Spondylodiscitis: An Uncommon Problem that has Become Common | **Michael Goytan MD**

1030 Necrotizing Fasciitis: Diagnosis & Management | **Sarvesh Logsetty MD**

1045 **Q & A Panel Discussion**

1100 **Stretch Break**

This event is online only and will be recorded for later viewing.

1115 What Diagnostic Imaging Test to Use, When, and Why? | **Derek Bueddefeld MD**

1130 Radiographic Findings of Abscesses and Osteomyelitis | **Rick Bhullar MD**

1145 Wound Microbiology: Not All Organisms are Created Equal | **Andrew Walkty MD**

1200 **Q & A Panel Discussion**

1215 **Lunch**

1245 Principles of Managing Eyelid Injuries and Infections | **Matthew Lee-Wing MD**

1300 Sepsis: Diagnosis, Management, and Prevention | **Ryan Zarychanski MD**

1315 Vascular Wounds and their Management | **Asad Junaid MD**

1330 **Q & A Panel Discussion**

1345 Pyoderma Gangrenosum: The Great Imitator| **Shane Silver MD**

1400 Hidradenitis Suppurativa | **Alexis Botkin MD**

1415 Drug Reactions that must NOT be Missed! | **Victoria Taraska MD**

1430 **Q & A Panel Discussion**

1445 **Stretch Break**

1500 Case Histories: Dermatology in Action | **Shane Silver MD, Alexis Botkin MD, Victoria Taraska MD**

1600 Closing Remarks

Rady Faculty of Health Sciences | UM

Recommended Readings

Diabetes and the Diabetic Foot: A Global Perspective

- Mcdermott K, Fang M, Boulton AJM, Selvin E, Hicks CW. Etiology, Epidemiology and Disparities in the Burden of Diabetic Foot Ulcers. Diabetes Care 2023; 46: 209-221.
- Boulton AJM, Armstrong DG, Hardman MJ, Malone M, Embil JM, Attinger CE, Lipsky BA, Aragaon-Sanchez J, Li HK, Schultz G, Kirsner RS. Diagnosis and Management of Diabetic Foot Infections. Arlington (VA): American Diabetes Association; 2020 Jan. PMID: 32105420.

The Truth Behind Wound Dressings

- Rayman G, Vas P, Dhatariya K, Driver V, Hartemann A, Londahl M, Piaggesi A, Apelqvist J, Attinger C, Game F; International Working Group on the Diabetic Foot (IWGDF). Guidelines on use of interventions to enhance healing of chronic foot ulcers in diabetes (IWGDF 2019 update). Diabetes Metab Res Rev. 2020 Mar;36 Suppl 1:e3283. doi: 10.1002/dmrr.3283. PMID: 32176450.

Amputee Rehabilitation: Setting Realistic Goals and Striving for Success

- Coffey, L et al. Cognitive functioning in persons with lower limb amputations: a review. Disability and Rehabilitation 2012; 34:23, 1950-1964
- Sansam, K et al. Predicting walking ability following lower limb amputation: a systematic review of the literature. Journal of Rehabilitation Medicine 2009; 41:593-603
- Smith, D. The Transfemoral Amputation Level, Part 3: Mastering the Vital Skills. inMotion, Vol 14, Issue 4, July/August 2004
- Collin, C and Collin, J. Mobility after lower limb amputation. British Journal of Surgery, 1995, 82, 1010-1011

Economic Impact of Wounds and Wound Care

- Nussbaum SR, Carter MJ, Fife CE, DaVanzo J, Haught R, Nusgart M, Cartwright D. An Economic Evaluation of the Impact, Cost, and Medicare Policy Implications of Chronic Non-Healing Wounds. Value Health 2018; 21: 27-32 PMID: 29304937.

Demystifying Wound Care

- Goldberg SR, Diegelmann RF. What Makes Wounds Chronic? Surg Clin N Am 2020 100: 681-693.
- Beyene RT, Derryberry SL, Barbul A. The Effect of Comorbidities on Wound Healing. Surg Clin N Am 2020; 100:695-705.
- Brock T, Barr J. The History of Wound Healing. Surg Clin N Am 2022; 100:786-806.

Soft Tissue Closure: Negative Pressure Wound Therapy, Flaps, Grafts and Secondary Intention

- Morow BT. Plastic Surgery Techniques for Wound Coverage. Surg Clin N Am 2020;100: 733-740.

Ostomies: All You Need to Know

- Colwell JC, McNichol L, Boarini J. North American Wound, Ostomy, Incontinence and Enterostomal Therapy Nurses Current Ostomy Care Practice Related to Peristomal Skin Issues. J Wound Ostomy Continence Nurs 2017; 44: 257-61.
- Doctor K, Colibaseanu DT. Peristomal Skin Complications: Causes, Effects, and Treatments. Chronic Wound Care Management and Research 2017: 4 1-6.

- Zwiep TM, Helewa RM, Robertson R, Moloo H, Hill R, Chaplain V, Harley C, on behalf of the Canadian Society of Colon and Rectal Surgeons and Nurses Specialized in Wound, Ostomy, and Continence Care Canada Preoperative Stoma Marketing Physician Statement Taskforce. Preoperative Stoma Site Marking for Fecal Diversions (Iliostomy and Colostomy): Position Statement of the Canadian Society of Colon and Rectal Surgeons and Nurses Specialized in Wound, Ostomy and Continence Care. Can J Surg 2022; 65(3). doi: 10.153/cjs.022320.
- Davis BR, Valente MA, Goldberg JE, Lightner AL, Feingold DL, Paquette IM. The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for Ostomy Surgery. Dis Colon Rectum 2022; 65: 1173-1190. doi: 10.1097/DCR.0000000000002498.

Spondylodiscitis: An Uncommon Problem that has become Common

- Berbari EF, Kanj SS, Kowalski TJ, Darouiche RO, Widmer AF, Schmitt SK, Hendershot EF, Holtom PD, Huddleston PM 3rd, Petermann GW, Osmon DR, Infectious Diseases Society of America. 2015 Infectious Diseases Society of America (IDSA) Clinical Practice Guidelines for the Diagnosis and Treatment of Native Vertebral Osteomyelitis in Adults. Clin Infect Dis. 2015 Sep 15;61(6):e26-46. doi: 10.1093/cid/civ482. Epub 2015 Jul 29. PMID: 26229122.

Necrotizing Fasciitis: Diagnosis and Management

- Tunovic E, Gawaziuk J, Bzura T, Embil J, Esmail A, Logsetty S. Necrotizing fasciitis: a six-year experience. J Burn Care Res. 2012 Jan-Feb;33(1):93-100. doi: 10.1097/BCR.0b013e318239d571. PMID: 22138809.
- Burnett E, Gawaziuk JP, Shek K, Logsetty S. Healthcare Resource Utilization Associated with Burns and Necrotizing Fasciitis: A Single-Center Comparative Analysis. J Burn Care Res. 2017 Nov/Dec;38(6):e886-e891. doi: 10.1097/BCR.0000000000000513. PMID: 28296669.

What Diagnostic Imaging Test to Use, When and Why?

- Spinnato P, Patel DB, Di Carlo M, Bartoloni A, Cevolani L, Matcuk GR, Crombé A. Imaging of Musculoskeletal Soft-Tissue Infections in Clinical Practice: A Comprehensive Updated Review. Microorganisms. 2022 Nov 25;10(12):2329. doi: 10.3390/microorganisms10122329. PMID: 36557582; PMCID: PMC9784663.

Radiographic Findings of Abscesses and Osteomyelitis

- Spinnato P, Patel DB, Di Carlo M, Bartoloni A, Cevolani L, Matcuk GR, Crombé A. Imaging of Musculoskeletal Soft-Tissue Infections in Clinical Practice: A Comprehensive Updated Review.Microorganisms. 2022 Nov 25;10(12):2329. doi: 10.3390/microorganisms10122329. PMID: 36557582; PMCID: PMC9784663.

Wound Microbiology: Not All Organisms are Created Equal

- Stevens DL *et al.* Practice Guidelines for the Diagnosis and Management of Skin and Soft Tissue Infections: 2014 Update by the Infectious Diseases Society of America. Clin Infect Dis 2014;59:e10-e52.
- Lipsky BA *et al.* Guidelines on the diagnosis and treatment of foot infection in persons with diabetes (IWGDF 2019 update). Diabetes Metab Res Rev 2020;36(S1):e3280.

Principles of Managing Eyelid Injuries and Infections

- Ophthalmology Guidelines for Family Physicians and Emergency Department. Rady Faculty of Health Sciences, University of Manitoba.

Sepsis: Diagnosis, Management and Prevention

- https://www.sepsiscanada.ca
- https://www.worldsepsisday.org

- Surviving sepsis Campaign Guidelines for the Management of Sepsis and Septic Shock. https://journals.lww.com/ccmjournal/Fulltext/2021/11000/Surviving_Sepsis_Campaign__International.21.aspx

Vascular Wounds and their Management

- Lim SLX, Chung RE., Holloway S, Harding KG. Modified compression therapy in mixed arterial-venous leg ulcers: An integrative review. Int Wound J. 2021; 18:822-842.
- Bernatchez SF, Eysaman-Walker J, Weir D. Venous Leg Ulcers: A Review of Published Assessment and Treatment Algorithms. Adv Wound Care (New Rochelle). 2022 Jan;11(1):28-41.
- Nelson EA, Bel-Syer SEM. Compression for preventing recurrence of venous ulcers. Cochrane Database Syst Rev. 2014 (9): CD002303.Doi:0.1002/14651858.CD002303.pub3.PMID: 25203307
- Effect of Surgery and Compression on Healing and Recurrence (ESCHAR) study, Lancet . 2004;363(9424):1854–1859.
- A Randomized Trial of Early Endovenous Ablation in Venous Ulceration. N Engl J Med 2018; 378:2105-2114
- Pentoxifylline for treating venous leg ulcers. Cochrane Database Syst Rev . 2012;12:CD001733.
- Arnold JF. Vascular Assessment of the Lower Extremity with a Chronic Wound. Surg Clin N Am 2020; 100: 807-822.

Pyoderma Gangrenosum: The Great Imitator

- Maverakis E, Marzano AV, Le ST, Callen JP, Brüggen MC, Guenova E, Dissemond J, Shinkai K, Langan SM. Pyoderma gangrenosum. Nat Rev Dis Primers. 2020 Oct 8;6(1):81. doi: 10.1038/s41572-020-0213-x. PMID: 33033263.

Hidradenitis suppurativa

- Goldburg SR, Strober BE, Payette MJ. Hidradenitis suppurativa: Epidemiology, clinical presentation, and pathogenesis. J Am Acad Dermatol. 2020 May;82(5):1045-1058. doi: 10.1016/j.jaad.2019.08.090. Epub 2019 Oct 9. PMID: 31604104.

Drug Reactions that must NOT be Missed!

- Schneider JA, Cohen PR. Stevens-Johnson Syndrome and Toxic Epidermal Necrolysis: A Concise Review with a Comprehensive Summary of Therapeutic Interventions Emphasizing Supportive Measures. Adv Ther. 2017 Jun;34(6):1235-1244. doi: 10.1007/s12325-017-0530-y. Epub 2017 Apr 24. PMID: 28439852; PMCID: PMC5487863.

Diabetes and the Diabetic Foot: A Global Perspective

Andrew JM Boulton, MD
Division of Diabetes, Endocrinology and Gastroenterology
University of Manchester

Abstract:
We are currently facing a global epidemic of diabetes and the latest International Diabetes Federation World Atlas suggested that there were 550 million people or thereabouts with diabetes across the world in December 2021. This represents an approximate 16% increase over the previous two years. Although earlier this Century a reduction in amputations secondary to diabetes was reported in the USA, figures are now once again increasing. Similarly, data have been shown for other diabetes complications. Each year there are more than six million foot ulcers diagnosed each year across the world, half of which will become infected: half of those infected will require hospitalization and of those, up to one in five may undergo some form of amputation. Foot ulcers are eminently preventable and with the revolution in technology that is ongoing, evidence suggests that self-monitoring of either temperature or pressure under the foot might be useful in predicting early risk of foot ulceration and enabling prevention. In recent years there has been a renaissance in diabetic foot care with evidence-based medicine applied to trials and providing potential new approaches to management. Most important remains patient education and involving patients in their own self-footcare.

Objectives:
By attending this session, the attendee will be able to:

1. Understand the rapidly increasing incidence of diabetes across the globe.
2. Understand the increasing frequency of foot ulceration in people with diabetes.
3. Understand that preventative foot problems are possible and that evidence-based treatments now exist for the management of hard-to-heal wounds.

Multiple Choice Questions (Select the best answer)

1. Most recent figures on the global prevalence of diabetes suggest that the total number of patients at the end of 2021 was:
   a. 300 million
   b. 550 million
   c. 700 million

2. Which of the following statements is true?
   a. It is estimated that there are more than 8 million foot ulcers occurring globally on an annual basis
   b. Approximately 20% of ulcers become infected
   c. Of those hospitalized with infected foot ulcers, up to 20% might require amputation

3. Regarding management of foot ulcers, which of the following is true:
   a. There is little evidence to support the use of hyperbaric oxygen in hard-to-heal diabetic foot wounds
   b. Osteomyelitis of the foot should always be treated by intravenous antibiotics
   c. In Western countries, the commonest type of foot ulcer seen in clinical practice is the neuropathic ulcer

The Truth Behind Wound Dressings

Frances Game, MD
Department of Diabetes and Endocrinology, University
Hospitals of Derby and Burton National Health Service Foundation Trust

Abstract:
The management of foot disease in diabetes remains a major financial and therapeutic challenge throughout the world. Whilst the most feared complication for patients with foot disease is amputation of part of the foot or leg, the majority of the costs to health care systems are incurred in the management of ulcers. Even though there is good evidence of the benefit of providing integrated multidisciplinary care, the outcome of chronic ulcers of the foot in people with diabetes is not good with only about half reported to heal within 3 months and two-thirds within 6 months. Many wound healing products and dressings are available to clinicians, yet the evidence to support the use of many of them is poor, with surprisingly few having been subjected to high quality clinical trials with unambiguous and clinically appropriate outcome measures. Here we will consider guidelines for conducting and reporting trials in this clinical field, whilst exploring some of the available evidence for many common products, and critically evaluating the evidence for their use.

Objectives:
By attending this session, the attendee will be able to:

- State the requirements of trials of wound healing products in people with diabetes and an ulcer of the foot
- Critically evaluate the available evidence for wound healing products
- State the differences between trial evidence and evidence-based guidelines

Multiple Choice Questions (Select the best answer)

1. In the 2019 International Working Group of the Diabetic Foot systematic review of wound healing interventions the published world literature of controlled trials of interventions numbered:
   a. 284
   b. 2,840
   c. 5,680

2. Which of the following statements is true?
   a. Systematic reviews and metanalysis are the highest quality of evidence available
   b. As long as there is one good quality-controlled trial, local and national guidelines should endorse this product.
   c. Stakeholders including patients and their carers should be involved in choosing outcomes for evidence-based guidelines

3. Regarding available evidence for wound dressings in the management of diabetic foot ulcers, which of the following is true:
   a. There is good evidence to support the use of topical antimicrobial products including dressings containing silver in reducing infection and improving wound healing.
   b. Sucrose octasulfate impregnated dressings have been shown to significantly increase the numbers of healed neuro-ischaemic diabetic foot ulcers after 20 weeks treatment.
   c. Sharp debridement can be used when topical dressings have failed.

Amputee Rehabilitation: Setting Realistic Goals and Striving for Success

Patrick Gross, BMR(PT)
Department of Physiotherapy
Health Sciences Centre, Shared Health

Abstract:
The most feared complication of any process affecting the lower limb in a person with diabetes is an amputation. Heroic measures are frequently taken to try and preserve the lower limbs in persons with diabetes and peripheral vascular disease. There may, however, be a time when further measures are no longer possible due to the underlying state of the lower limb, and therefore, an amputation becomes the most appropriate therapy. While many perceive the amputation to be a defeat, for the vast majority of individuals, it is an intervention that can alleviate discomfort and minimize risk of significant widespread infection. Providing individuals facing amputation with a realistic understanding of the rehabilitation process thereafter will go a long way to ensuring a successful outcome.

Objectives:
By attending this session, the attendee will be able to:

1. Better appreciate the realities facing individuals post amputation
2. State the admission criteria for accepting an individual into an amputee rehabilitation program
3. State the minimum criteria for an individual to be fitted with a prosthesis

Multiple Choice Questions (Select the best answer)

1. A 62-year-old male with type 2 diabetes underwent a right transtibial amputation today secondary to an infected diabetic foot ulcer. Assuming that he is a good candidate, how soon on average will he be fit with a prosthesis in Manitoba?
   a. Immediately after his amputation
   b. Prior to hospital discharge
   c. 3-4 months
   d. 6-9 months

2. An 85-year-old male underwent a left transfemoral amputation secondary to critical limb ischemia. His previous medical history includes DM2, IHD, MIx2, CHF, HTN, and dyslipidemia. He remains a hoyer transfer despite 2 months of intensive therapy intervention. His stump is well healed now and family is requesting he be fitted with a prosthesis to allow him to become independent with transfers and to return home ambulating. You should,
   a. Discuss with them that a transfemoral prosthesis does not assist with transfers
   b. Discuss with them that, in this case, a transfemoral prosthesis would act like an anchor
   c. Provide them with a prescription for prosthetic casting as soon as possible
   d. a and b

3. A 40-year-old male with diabetes and schizophrenia has undergone a left transtibial amputation secondary to a severe foot infection. He demonstrates impaired insight, poor judgment, an inability to care for himself that has resulted in self-neglect. He has been deemed incompetent by psychiatry. A trial of prosthetic fitting should,
   a. Occur only as an inpatient to ensure patient safety
   b. Not be considered
   c. Occur only with the direct involvement and support of his primary caregiver who lives with him and is accepting of providing his long-term supervision and care.

Economic Impact of Wounds and Wound Care

Maria Cendou, MSA[1] , Ed Buchel, MD[2]
[1] Supply Chain Management Shared Services
[2]Section of Plastic Surgery, Department of Surgery
Max Rady College of Medicine, University of Manitoba

Abstract:
Patients with acute and hard to heal wounds are prevalent throughout the continuum of care, ranging from hospital to home. From a healthcare system cost perspective, consideration must be given to the time healthcare providers expend to address these serious wounds in addition to the cost of supplies. In 2021, Manitoba Service Delivery Organizations spent over $8M for supplies and several millions more on healthcare provider resources to address these hard to heal wounds. While there are strategies to leverage volume discounts through national group purchasing organizations such as HealthPro, there remains significant opportunity to further reduce healthcare system costs through the establishment of a provincial formulary for advanced wound care that is based on clinical evidence. Other jurisdictions in Canada have undertaken this work and Manitoba has an opportunity to follow suit by adopting or adapting an existing formulary. While supplies are one contributor to the system cost, evidence-based selection of products for specific types of wounds is by far the best way to reduce the costs associated with care and improve patient outcomes.

Objectives:
By attending this session, the attendee will be able to:

1. State the impact of advanced wound care product selection on system cost, quality and patient outcomes.
2. State how clinical evidence can be used to enable system cost reductions and better patient outcomes.
3. State the true cost of care for patients with complex wounds

Multiple Choice Questions (Select the best answer)

1. The overall supply cost to the Manitoba system for advanced wound care dressings in 2020/21 was:
   a. $120,000
   b. $1.2 Million
   c. Over $8 Million

2. What is the most prominent factor(s) that contribute to increased system costs?
   a. Inconsistent practices between healthcare providers resulting in waste and product selections not based on clinical evidence.
   b. Inappropriate use of dressings for the type of wound based on supplier marketing material
   c. Selecting the most expensive dressing option

3. Which indicator(s) should Manitoba be monitoring consistently to address value and costs to the system?
   a. Amputation prevalence
   b. Time spent by healthcare providers on wound care
   c. Percentage of patients whose wounds never heal
   d. All of the above

Demystifying Wound Care

Christian Petropolis, MD
Section of Plastic Surgery, Department of Surgery
Max Rady College of Medicine, University of Manitoba

Abstract:
Wounds take on many forms and typically involve several inciting and propagating factors. A basic understanding of normal and abnormal healing pathways can help guide interventions at the wound site and systemically. To expedite successful wound closure appropriate debridement, nutritional optimization, control of underlying medical conditions and elimination of risk factors such as smoking should be implemented. Wound appearance along with inciting cause can typically guide the initial choice of dressing. For example wounds with excess moisture need absorption and those with necrotic tissue need debridement. A simple algorithm for both initiation and adjustment of dressings can allow all practitioners to make smart wound care choices.

Objectives:
By attending this session, the attendee will be able to:

1. Sate the basic processes involved in wound healing
2. State the common factors which inhibit wound healing
3. State a wound care algorithm for initiation and adjustment of care

Multiple Choice Questions (Select the best answer)

1. What is the most appropriate dressing for most wounds??
   a. Negative pressure wound therapy
   b. Saline moistened gauze
   c. Hydrogel
   d. Adaptic with polysporin

2. A clean wound from which a specimen was obtained yielded methicillin susceptible *Staphylococcus aureus*. Which of the following is the most appropriate dressing?
   a. Iodine-containing non-stick dressing
   b. Silver impregnated dressing
   c. Saline moistened gauze
   d. Chlorhexidine-impregnated gauze

3. Which dressing should be used on exposed tendons, bone or nerves?
   a. Negative pressure wound therapy
   b. Saline moistened gauze
   c. Hydrogel
   d. Non-adherent dressing with topical antibiotic

Soft Tissue Closure:
Negative Pressure Wound Therapy, Flaps, Grafts and Secondary Intention

Leif Sigurdson, MD
Section of Plastic Surgery, Department of Surgery
Max Rady College of Medicine, University of Manitoba

Abstract:
Wound closure modalities can range from simple to complex. Many are available to the clinician including negative pressure wound therapy, flaps, grafts as well as primary and secondary intention. Choosing which one is ideal for a given situation can be challenging. There are many different ways to approach closure of soft tissue defects. The presentation will emphasize patient related factors which fundamentally change the options available for wound closure.

Objectives:
By attending this session, the attendee will be able to:

1. State which wound closure options will work and not work in different situations
2. State the different options available for wound closure
3. State when to refer a patient for plastic surgery consultation for wound closure

Multiple Choice Questions (Select the best answer)

1. What is the best method of closure over exposed bone?
   a. Skin graft
   b. Negative pressure wound therapy
   c. Flap
   d. Medicinal honey

2. Which factor is the least important regarding choice of wound closure modality?
   a. Presence of radiation
   b. Poor vascular supply
   c. Vitamin deficiency
   d. Nutrition level

3. At which point should the decision be made to continue with negative pressure wound therapy or not?
   a. 3 days
   b. 2 weeks
   c. 6 weeks
   d. 3 months

Ostomies: All You Need to Know

Tina Rutledge, RN[1], Ramzi Helewa, MD[2]
[1]Department of Surgery, Health Sciences Centre, Shared Health
[2]Section of General Surgery, Department of Surgery,
Max Rady College of Medicine, University of Manitoba

Abstract:
More than 3000 people in Manitoba live with an ostomy. The word "ostomy" is a term used to describe a surgically created opening on the abdomen for the removal of body wastes. The intestine is brought up through the muscle and fascia to skin level and fashioned into a stoma and sutured in place. There are many reasons for needing an ostomy. Some of the most common reasons are cancer, inflammatory bowel disease, diverticulitis, congenital anomalies and trauma. Ostomies are located within the Gastrointestinal tract or in the Genitourinary system. The most common types of ostomies are the ileostomy located in the small bowel and the colostomy located in the large bowel. Some ostomies are permanent and some are temporary. All persons living in Manitoba who require an ostomy have the option to see or be connected with a Nurse who specializes in Wounds, Ostomy and Continence referred to as an NSWOC, previously referred to as an Enterostomal Therapy Nurse or ET nurse. The Manitoba Ostomy Program (MOP) is administered by Shared Health on behalf of regional health authorities around the Province. It is a unique program that provides nursing support and ostomy supply coverage for all Manitoba residents living with ostomies, wounds or fistulae that require pouching.

Objectives:
By attending this session, the attendee will be able to:

1. Identify three reasons why someone may require an ostomy
2. Identify the difference between a colostomy and an Ileostomy
3. Know who to contact with stoma related issues

Multiple Choice Questions:

1. Where in the intestinal tract would an Ileostomy be located?
   a. Jejunum
   b. Duodenum
   c. Ileum
   d. Cecum

2. A healthy stoma would be what colour?
   a. Pale pink
   b. Red/Pink
   c. Purple
   d. Black

3. A patient with a diverting loop ileostomy as part of their surgery for rectal cancer can have a bowel movement through their anus.
   a. True. This should happen on a daily basis
   b. True. This can happen occasionally with drainage of mucus or stool
   c. False. This is anatomically impossible
   d. False. Patients with rectal cancer should not have a bowel movement through their anus until their loop ileostomy stoma is reversed.

Spondylodiscitis: An Uncommon Problem that has become Common

Michael Goytan, MD
Section of Orthopedics, Department of Surgery
Max Rady College of Medicine, University of Manitoba

Abstract:
Spondylodiscitis is unfortunately becoming a relatively common spine infection in Manitoba, the spectrum of disease ranges from incapacitating back pain with neurologic symptoms to an incidental finding on a magnetic resonance imaging scan (MRI). There are several risk factors that can predispose an individual to be at risk for spondylodiscitis, the clinician must have a high degree of suspicion and not just attribute the pain and disability to an "arthritic condition" and look for a more sinister etiology.

A standardized approach to clinical and radiographic diagnosis, management and when surgical intervention is required will be reviewed.

Objectives:
By attending this session, the attendee will be able to:

1. State the constellation of symptoms and the clinical picture of a spondylodiscitis
2. List the risk factors of the patient for spondylodiscitis which may or may not be modifiable
3. State the applicable imaging, antibiotic therapy and surgical consultation requirements in when spondylodiscitis is considered. Also state the techniques for clinical, serologic and radiographic follow up in spondylodiscitis

Multiple Choice Questions (select the best answer)

1. The intervertebral disc is the "perfect storm" for developing an infection because:
   a. There are two hypothesis of the pathophysiology of spondylodiscitis – arterial and vascular
   b. The intervertebral disc space endplates have loop capillaries that provide nutrition to the disc via diffusion, there is no direct blood supply
   c. The endplates of the intervertebral disc have a reduced pO2, reduced blood Q, and decreased pH
   d. a and c
   e. b only
   f. All of the above

2. The indications for antibiotic therapy in spondylodiscitis are:
   a. Patient is in septic shock
   b. A bacterial pathogen has not been identified
   c. Patient has not back pain and is clinically well
   d. Computed axial tomographic scan guided biopsy of the disc space is negative

3. The indication for surgical referral in spondylodiscitis is/are:
   a. The patient has unrelenting pain, neurologic deficit and a spinal deformity
   b. Antibiotic therapy alone has been unable to control the infection and patient is septic
   c. Not sure how to manage the problem
   d. a and b
   e. c only
   f. All of the above

Necrotizing Fasciitis: Diagnosis and Management

Sarvesh Logsetty, MD
Section of General Surgery, Department of Surgery
Max Rady College of Medicine, University of Manitoba

Abstract:
Necrotizing fasciitis (NF) is grouped into 2 types based on causative organisms. Type I is a polymicrobial infection involving Gram positive, Gram negative, aerobic, anaerobic organisms, or rarely fungi. Type II is a monomicrobial infection caused typically by Group A Streptococcus. The invasive process is aided by the production of exotoxins and endotoxins, which accelerate the infection by causing progressive tissue necrosis. Thrombosis of local vessels, ischemia, liquefaction necrosis and an exaggerated immune response are hallmarks of NF. The infection can spread as fast as 2.5cm per hour.

Early symptoms are localized to the initial site of infection and include edema, erythema, heat and pain. Pain disproportionate to the visible injury is a key distinction between NF and conditions such as cellulitis or abscesses that may initially present similarly.

Diagnosis of NF is a difficult proposition. A high index of suspicion is required to make a timely diagnosis.

Objectives:
By attending this session, the attendee will be able to:
1. Describe the disease of necrotizing fasciitis
2. Identify the factors that aid in the diagnosis of necrotizing fasciitis
3. Describe the initial management of necrotizing fasciitis

Multiple Choice Questions (Select the best answer)
1. What is the most important factor in diagnosing necrotizing fasciitis?
   a. Computed axial tomographic scanning
   b. Elevated white blood cell count (WBC)
   c. Clinical suspicion
   d. History of injury

2. Identify a quick test that can help evaluate the presence of necrotizing fasciitis in the emergency room.
   a. Ultrasound
   b. Plain radiograph
   c. Computed axial tomographic scan
   d. Surgical cut down

3. While awaiting surgery, the most important treatment for necrotizing fasciitis is:
   a. Antibiotics
   b. Elevating the limb
   c. Hyperbaric oxygen
   d. Intravenous immunoglobulin

What Diagnostic Imaging Test to Use, When and Why?

Derek Bueddefeld, MD
Department of Radiology
Max Rady College of Medicine, University of Manitoba

Abstract:
Diagnostic imaging plays an important role in confirming/excluding soft tissue and bone infections in addition to evaluating extent of disease and monitoring response to therapy. Appropriate utilization of the various diagnostic imaging techniques and modalities available contributes to quality patient care and resource management. A basic understanding of the specific benefits and limitations to each imaging modality forms the foundation for care-directed imaging and optimizes assessment of soft tissue and bone infections.

Objectives:
By attending this session, the attendee will be able to:

1. Integrate diagnostic imaging with clinical presentation to diagnosis and monitor soft tissue and bone infection.
2. Understand the benefits and limitations of each imaging modality in the setting of soft tissue and bone infection.
3. Appropriately select the optimal imaging modality depending on clinical circumstances.

Multiple Choice Questions (Select the best answer)

1. Conventional radiography is useful for which of the following?
   a. Identifying bone marrow edema.
   b. Assessing non-infectious pathologies such as a fracture.
   c. Determining the size of an abscess.
   d. Diagnosing osteomyelitis in the first 1-2 days of infection.

2. In comparison to conventional radiography, computed tomography (CT) offers which of the following?
   a. Limited assessment for soft tissue abscesses.
   b. Higher sensitivity for evaluation of cortical destruction and periostitis.
   c. Lower sensitivity for detection of soft tissue gas.
   d. Superior detection of bone marrow edema.

3. When considering MRI evaluation, which of the following could limit diagnostic utility?
   a. Impaired renal function.
   b. Metallic hardware near the area of interest.
   c. Patient motion.
   d. All of the above.

Radiographic Findings of Abscesses and Osteomyelitis

Rick Bhullar, MD
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Abstract:
Diagnostic imaging can be an important component of the clinical assessment of a patient with suspected infection. Knowing which test to order and when is vitally important, not only for the practice of good medicine but also for the appropriate management of healthcare resources. Having a basic understanding of the imaging findings of cellulitis, soft tissue abscess and osteomyelitis can help direct the next step in management.

Objectives:
By attending this session, the attendee will be able to:

1. Select the appropriate imaging test for assessment of wounds and suspected infections
2. State the limitations of diagnostic imaging in wound management
3. Identify general plain radiograph (x-ray), computed axial tomographic scan (CT) and magnetic resonance imaging (MRI) findings in cellulitis, soft tissue abscess and osteomyelitis.

Multiple Choice Questions (Select the best answer)

1. A patient presents with diabetic foot ulcer. You suspect osteomyelitis of the first metatarsal head. What is the best initial imaging test you would now request:
   a. X-ray of the foot
   b. CT
   c. MRI
   d. Ultrasound

2. You suspect necrotizing fasciitis in a toxic patient with severe pain and redness of the calf. Which statement is correct?
   a. CT finding can be nonspecific
   b. Necrotizing fasciitis is a clinical diagnosis
   c. If patient is severely toxic, treatment should not be delayed for imaging
   d. All of the above

3. Which if these is a common finding of osteomyelitis on a foot radiograph in a patient with a deep diabetic foot ulcer?
   a. Smooth fracture line
   b. Joint subluxation with intact joint space
   c. Irregular cortical erosion of underlying bone
   d. Usually the x-ray is normal

Wound Microbiology: Not All Organisms are Created Equal

Andrew Walkty, MD
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Max Rady College of Medicine, University of Manitoba and Shared Health,

Abstract:
Soft tissue and wound infections can be caused by a wide variety of bacterial pathogens. Virulent organisms such as Staphylococcus aureus and beta-hemolytic streptococci are frequently responsible for common soft tissue infections. However, other bacteria may be implicated depending on the mechanism by which a wound is acquired (e.g., animal bite, post-surgical procedure, diabetic foot infection). It is also important to recognize that not all bacteria recovered from a wound specimen are clinically relevant. Some organisms such as Corynebacterium spp. and coagulase-negative staphylococci are frequent skin colonizers, and often not involved in the pathogenesis of a wound infection. The microbiology laboratory assists clinicians by identifying pathogens responsible for soft tissue/wound infections and providing antimicrobial susceptibility data when indicated. The clinical utility of culture and susceptibility results is highly dependent on the laboratory receiving an appropriate specimen. When managing a wound, a clinician must decide whether it appears clinically infected. If there is no evidence of infection, a specimen should not be submitted as the result provided by the laboratory will be difficult to interpret. When there is evidence of infection, an appropriate specimen should be collected in a way that minimizes contamination. The goals of this presentation are to review the key pathogens involved in soft tissue and wound infections, describe how to appropriately obtain a specimen from a wound for culture (and how to complete the microbiology requisition), and provide guidance on how to interpret reports received by the microbiology laboratory.

Objectives:
By attending this session, the attendee will be able to:

1. State the names of common pathogens responsible for skin and soft tissue/wound infections
2. Describe how (and when) to submit a specimen to the microbiology laboratory and list key pieces of information that need to be included on the microbiology laboratory requisition
3. Interpret the data presented in microbiology laboratory reports

Multiple Choice Questions (Select the best answer)

1. Which of the following organisms is not typically responsible for acute skin and soft tissue infections in otherwise healthy hosts?
   a. Methicillin-susceptible *Staphylococcus aureus*
   b. Methicillin-resistant *Staphylococcus aureus*
   c. *Corynebacterium* spp.
   d. Group A *Streptococcus*
   e. Group C or G *Streptococcus*

2. Which of the following statements regarding specimen collection from a wound for culture is false?
   a. Use of a swab to obtain the specimen is preferred over sending tissue or fluid to the laboratory for culture
   b. A specimen for culture should not be obtained from a clinically uninfected wound
   c. The wound should be cleansed and debrided before obtaining a specimen for culture
   d. A specimen for culture should be promptly transported to the microbiology laboratory in a sterile container
   e. A specimen for culture should be obtained prior to the initiation of antimicrobial therapy

3. Which of the following is not included on the final report issued by the microbiology laboratory for wound specimens?
    a. A Gram stain result
    b. Pathogens identified with quantitation
    c. Relevant antimicrobial susceptibility data
    d. Comments (when appropriate) to assist with interpretation of the report
    e. All of the above are included on the final report

Principles of Managing Eyelid Injuries and Infections

Matthew Lee-Wing, MD
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Abstract:
Patients with eyelid trauma should be initially assessed and treated for serious and life-threatening injuries that take precedence over the eyelid injury. A careful history is obtained to elucidate the mechanism of injury, the possibility of a retained foreign body as well as the patient's tetanus status and general health. The best corrected visual acuity is recorded followed by examination of the eye, eyelid and orbital structures. Radiological studies are performed when there is suspicion of a foreign body or orbital injury. Small wounds not involving the lid margin or lacrimal system can be repaired by the primary care physician. Extensive lacerations involving the lid margin, canthal tendons or lacrimal system should be referred to a specialist. The wound should be irrigated and cleansed of any foreign material before suturing the laceration. In general, eyelid tissue survives very well due to a good blood supply. For this reason, traumatic tissue flaps should be saved and debridement should be avoided. In the second part of the presentation, the clinical features and management of preseptal and orbital cellulitis will be discussed.

Objectives:
By attending this session, the attendee will be able to:

1. Describe the steps for systematic evaluation of a patient with eyelid trauma.
2. Identify which eyelid injuries can be treated by a primary care physician and which injuries should be referred.
3. Differentiate between preseptal and orbital cellulitis and be able to initiate appropriate treatment.

Multiple Choice Questions (Select the best answer)

1. Which of the following statements is true about canalicular trauma?
   a. Stenting should be avoided
   b. It must be repaired within 6 hours of injury
   c. It almost never results from blunt trauma
   d. Untreated upper canalicular lacerations may result in epiphora

2. A 7-year-old female presents with right eyelid swelling, redness and pain that started 1 day previously. Her vision is 20/50 right eye and 20/20 left eye. There is 3mm of right exophthalmos and pain with eye movement. Which of the following is least likely?
   a. Preseptal cellulitis
   b. Rhabdomyosarcoma
   c. Orbital inflammation (pseudotumor)
   d. Orbital cellulitis

3. A 24-year-old male sustained a left upper eyelid laceration from a fall earlier that day. A full-thickness lid laceration is seen with a 7 mm wide block of avulsed, avascular eyelid and an upper eyelid defect. Which of the following is least appropriate?
   a. Suture the laceration
   b. Check the tetanus status
   c. Discard the avulsed tissue
   d. Repair the levator muscle

Sepsis: Diagnosis and Management

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Max Rady College of Medicine, University of Manitoba

Abstract:
Sepsis is life-threatening organ dysfunction caused by a dysregulated host response to infection. Worldwide, sepsis affects ~50 million people per year and represents the most preventable cause of death. Most infections, including viral and bacterial can result in sepsis. Risk factors for sepsis include increasing age or very young age, weakened immune system, significant medical comorbidities and splenectomy. Sepsis is a medical emergency. Early identification of sepsis is critical – implementation of performance improvement programs that include use of a validated sepsis screening tool is recommended. Principles of initial management include fluid resuscitation and hemodynamic support, antimicrobials, and source control. If sepsis is definite or probable, appropriate cultures and antimicrobials must be administered immediately. Long term consequences of sepsis in survivors include loss of digits/limbs, memory or concentration disturbances, depression/anxiety and post-traumatic stress disorder.

Objectives:
By attending this session, the attendee will be able to:

1. State the signs and symptoms of sepsis
2. State what constitutes appropriate initial therapies for patients with sepsis
3. State the long-term consequences of sepsis
4. List the adjunctive or emerging therapies in sepsis beyond antimicrobials

Multiple Choice Questions (Select the best answer)

1. Which sepsis screening tool is NOT recommended for use in clinical practice
   a. SIRS – Systemic Inflammatory Response Syndrome criteria
   b. NEWS - National Early Warning Score
   c. MEWS - Modified Early Warning Score
   d. qSOFA – Quick Sequential Organ Failure Assessment Score

2. In cases of suspected/probable with signs of impaired tissue perfusion, what prescription of initial fluid resuscitation is recommended?
   a. 30 mL/kg in 6 hours
   b. 30 mL/kg in 3 hours
   c. 30 mL/kg/hr for 6 hours
   d. 30 mL/kg/hr for 3 hours

3. What is the hemoglobin goal in patients with sepsis and septic shock?
   a. 100 g/L
   b. 80 g/L
   c. 70 g/L
   d. There is no established goal

Vascular Wounds and their Management

Asad Junaid, MD
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Abstract:
This presentation will focus on the non-surgical management of arterial and venous insufficiency related lower extremity ulceration. As medical management of lower extremity arterial wounds is generally ineffective these are best treated with endovascular or open surgical approaches whenever feasible. The mainstay of therapy for venous insufficiency related ulceration is compression. Several types of compression (stockings, elastic bandages, rigid bandages, and intermittent pneumatic compression) therapies are available for use. The advantages, disadvantages, and appropriate use of these modalities in specific types of clinical presentations will be discussed. Peripheral artery disease and venous insufficiency frequently coexist in the same patient. There is a general lack of clarity and consensus on the safe use of compression to promote vascular wound healing in this scenario. The role of non-invasive vascular testing in helping to guide compression therapy and other venous interventions will be reviewed. Contraindications to compression therapy will be critically examined. In addition, the role of medications (pentoxifylline, bioflavonoids) in treating venous insufficiency will be discussed.

Objectives:
By attending this session, the attendee will be able to:

1. Utilize non-invasive vascular testing to aid in the diagnosis and management of vascular wounds.
2. Prescribe appropriate types of compression therapy for venous insufficiency related wounds.
3. Recognize the limitations of medical therapy and the value of surgical interventions when managing vascular wounds.

Multiple Choice Questions (Select the best answer)

1. Intermittent pneumatic compression therapy:
   a. Should not be used in patients wearing multi-layered compression bandaging
   b. Has not been shown to improve ulcer healing rates
   c. Can be a useful adjunct to compression bandage therapy

2. Inelastic compression bandages as compared to elastic compression bandages:
   a. Are less effective in reducing venous reflux and improving venous pump function
   b. Are better tolerated at rest
   c. Provide graduated compression

3. What percentage of patients without palpable dorsalis pedis and posterior tibial pulses in both lower limbs will have peripheral artery disease on ABI testing?
   a. 90%
   b. 70%
   c. 50%

Pyoderma Gangrenosum: The Great Imitator

Shane Silver, MD
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Max Rady College of Medicine, University of Manitoba

Abstract:
Wounds, whether they be acute or chronic, can have various etiologies. Any ulcer/wound has to be assessed both by history and physical to come up with an etiology and a plan for management. Pyoderma Gangrenosum is no exception. This is the great imitator. This is dermatology's syphilis (the traditional great imitator for infectious disease). This can be easily misdiagnosed as various etiologies leading to delay in treatment and investigations for underlying associations.

Pyoderma gangrenosum can be an explosive, destructive inflammatory condition which is extremely painful and debilitating. In this session we will present various manifestations of pyoderma gangrenosum, focusing on physical examination, to enable diagnosis, differential diagnosis, disease associations, and treatment.

We don't want anyone to have delay in diagnosis and management. By attending this session, you will be able to recognize pyoderma gangrenosum in the future, and start treatment promptly.

Objectives:
By attending this session, the attendee will be able to:

1. State the clinical presentation of various forms of pyoderma gangrenosum.
2. Formulate a differential diagnosis on ulcers/ wounds which mimic pyoderma gangrenosum.
3. Form a treatment plan for pyoderma gangrenosum.

Multiple Choice Questions (Select the best answer)

1. Pyoderma gangrenosum can present clinically as the following:
   a. A bullae
   b. An ulceration with purple overhanging border
   c. a verrucous plaque
   d. a, b and c

2. Which condition is associated with pyoderma gangrenosum?
   a. Cardiac disease
   b. Inflammatory bowel disease
   c. Monoclonal gammopathy
   d. b and c

3. Which of the following is contraindicated in the management of pyoderma gangrenosum?
   a. Prednisone
   b. Intralesional steroids
   c. Wound debridement
   d. Cyclosporine

Hidradenitis suppurativa

Alexis Botkin, MD
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Max Rady College of Medicine, University of Manitoba

Abstract:
Hidradenitis Suppurativa, also known as acne inversa, is a chronic inflammatory disorder affecting apocrine gland bearing skin. Follicular occlusion leading to plugging of follicular contents then rupture and inflammation of the dermis, leads to the commonly seen cutaneous findings. Patients present with nodules, cysts, sinus tracts, draining purulent discharge, scarring and pain. The axillae, buttocks, groin, perianal, perineal, inframammary areas are most commonly involved.

At early stages patients present with acne like papules and paired open comedones. The severity of the disease is classified using the Hurley Staging System which can assist in choosing therapeutics.

An accurate history and physical exam leading to an early diagnosis is key in reducing the burden of disease. Care providers must be aware of the associated physical and psychological suffering that accompany this disease in order to appropriately care for the whole patient.
Addressing modifiable factors in behavior and lifestyle, as well as access to emerging therapeutics can prevent significant suffering that result from this disease process.

Objectives:
By attending this session, the attendee will be able to:

1. Recognize diagnostic pearls for an early and accurate diagnosis of hidradenitis suppurativa.
2. Understand an approach to therapeutics for the management of hidradenitis suppurativa
3. Appreciate the psychological and social impacts this condition can have on affected patients

Multiple Choice Questions (Select the best answer)

1. Which of the following describes Hurley Stage III Disease in Hidradenitis Suppurativa?
   a. Recurrent abscesses with tract formation and scarring, single or multiple widely separated lesions
   b. Abscess formation, single or multiple, without sinus tracts and scarring
   c. Diffuse or near diffuse involvement, or interconnected tracts and abscesses across the entire area
   d. None of the above

2. Which of the following are Important co-morbidities to screen for in patients with Hidradenitis Suppurativa.
   a. Inflammatory Bowel Disease
   b. Metabolic Syndrome
   c. Depression and Anxiety
   d. Smoking
   e. All of the above

3. An initial approach to therapy for a patient with moderate Hurley Stage II HS might include?
   a. Support in smoking cessation
   b. Support in weight loss
   c. Local Intralesional Kenalog injection to active painful lesions
   d. 3-6 months of an oral antibiotic such as Doxycycline 100mg PO BID
   e. All of the above

Drug Reactions that must NOT be Missed!

Victoria Taraska, MD
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Abstract:
There are 2 main allergic rashes that may happen after taking a drug. Type 1 allergic reactions that occur within hours known as hives and delayed type of drug rash that occurs days to weeks after. We will discuss the severe versions of second type of drug reactions and exclude hives. Severe cutaneous adverse reactions, or SCARs, refers to several distinct conditions. There are 3 main types: Acute generalized exanthematous pustulosis (AGEP), Drug-induced hypersensitivity syndrome (DIHS) also known as drug reaction with eosinophilia and systemic symptoms (DRESS) and Stevens-Johnson syndrome/toxic epidermal necrolysis (SJS/TEN).

Objectives:
By attending this session, the attendee will be able to:

1. Identify the 3 main types of SCARs
2. State the warning signs of SCARs
3. Differentiate between erythema multiforme (EM), SJS and TEN

Multiple Choice Questions (Select the best answer)

1. The most common drugs for SCARs include all but the following:
   a. Trimethoprim-sulfamethoxazole
   b. Carbamazepine
   c. Allopurinol
   d. Acetaminophen
   e. Penicillin

2. There is at least what percentage of epidermal detachment in TEN-toxic epidermal necrolysis?
   a. 10%
   b. 20%
   c. 30%
   d. 40%
   e. 50%

3. Warning signs of a more concerning/complex drug rash include all but the following
   a. Facial swelling
   b. Involvement of the arms and legs and not just the torso
   c. Dusky color changes to rash
   d. Mucosal involvement
   e. Fever and tachycardia
   f. Bullae

Case Discussions

Shane Silver, MD, Alexis Botkin, MD, Victoria Taraska, MD
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Max Rady College of Medicine, University of Manitoba

Abstract:
In this session, the presenters will provide a series of cases that highlight key issues in the diagnosis and treatment of wounds.

Objectives:
By attending this session, the attendee will be able to:

1. Consolidate their knowledge from the preceding sessions
2. Formulate a strategy for diagnosis and treatment of open wounds
3. State when to call for help

Multiple Choice Questions (Select the best answer)

1. What clinical presentations would make you think of an exogenous cause of ulcerations?
   a. Angulated ulcerations
   b. Excoriations and erosions with papules and vesicles
   c. Lesions on the upper and lower back but sparing mid back
   d. a and c

2. What is true of staphylococcal scalded skin syndrome?
   a. It presents in children and renal failure patients primarily
   b. It starts in the intertriginous areas
   c. It usually has mucosal involvement
   d. a and b

3. Where is the best place to do a biopsy to diagnose a Basal cell carcinoma?
   a. At the edge of the lesion
   b. Part on the lesion and part on the normal skin
   c. An area of regression
   d. Anywhere the lesion is most atypical clinically with intact epidermis.

Answers to Multiple Choice Answers:

1. **Diabetes and the Diabetic Foot: A Global Perspective**
    1. b
    2. c
    3. a

2. **The Truth Behind Wound Dressings**
    1. a
    2. c
    3. b

3. **Amputee Rehabilitation: Setting Realistic Goals &Striving for Success**
    1. c
    2. d
    3. c

4. **Economic Impact of Wounds and Wound Care**
    1. c
    2. a
    3. d

5. **Demystifying Wound Care**
    1. b
    2. c
    3. c

6. **Soft Tissue Closure: Negative Pressure Wound Therapy, Flaps, Grafts and Secondary Intention**
    1. c
    2. c
    3. b

7. **Ostomies: All You Need to Know**
    1. c
    2. b
    3. b

8. **Spondylodiscitis: An Uncommon Problem that has Become Common**
    1. f
    2. a
    3. f

9. **Necrotizing Fasciitis: Diagnosis & Management**
    1. c
    2. d
    3. a

10. **What Diagnostic Imaging Test to Use, When and Why?**
    1. b
    2. b
    3. d

11. Radiographic Findings of Abscesses and Osteomyelitis

1. a
2. d
3. c

12. Wound Microbiology: Not All Organisms are Created Equal

1. c
2. a
3. e

13. Principles of Managing Eyelid Injuries and Infections

1. d
2. a
3. c

14. Sepsis: Diagnosis, Management and Prevention

1. d
2. b
3. c

15. Vascular Wounds and their Management

1. c
2. b
3. c

16. Pyoderma Gangrenosum: The Great Imitator

1. d
2. d
3. c

17. Hidradenitis suppurativa

1. c
2. e
3. e

18. Drug Reactions that must NOT be Missed!

1. d
2. c
3. b

19. Case Histories: Dermatology in Action

1. d
2. d
3. d