

GUIDELINES FOR SURGERY IN THE HIV PATIENT

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References

1. Harris HW, Schechter WP. Surgical risk assessment and management in patients with HIV disease. *Gastroenterol Clin* 1997;26(2):377-391.
2. Jones S, Schechter CB, Smith C, et al. Is HIV infection a risk factor for complications of surgery? *Mt Sinai J Med* 2002; 69(5): 329-333.
3. Reilly MJ, Burke KM, Davison SP. Wound infection rates in elective plastic surgery for HIV positive patients. *Plast Reconstr Surg* 2009;123(1):106-111.
4. Consten EC, van Lanchot JJ, Henry PC, et al. A prospective study on the risk of exposure to HIV during surgery in Zambia. *AIDS*1995;9(6):585-588.
5. Quebberman EJ, Telford GL, Wadsworth K, et al. Double gloving: protecting surgeons from blood contamination in the operating room. *Arch Surg* 1992;127(2): 213-221.

GASTROINTESTINAL DISEASES IN HIV/AIDS

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References

1. CDC. The global HIV/AIDS pandemic. MMWR Morb Mortal Wkly Rep 2006;55:841-844.
2. Mocroft A, Brettle R, Kirk O, et al. Changes in the cause of death among HIV positive subjects across Europe: results from eurosida study. AIDS 2002;16:1663-1671.
3. CDC. Pneumocystis pneumonia – Los Angeles. MMWR Morb Mortal Wkly Rep 1981;30:250-252.
4. Mocroft A, Youie M, Phillips AN, et al. The incidence of AIDS-defining illnesses in 4883 patients with human immunodeficiency virus infections. Arch Intern Med 1998;158:491-497.
5. Holmes CB, Wood R, Badri M, et al. CD 4 decline and incidence of opportunistic infections in Cape Town, South Africa: Implications for prophylaxis and treatment. J Acquir Immune Defic Syndr 2006;42:464-496.
6. Anna LW, Prado IB. Role of upper endoscopy in diagnosing opportunistic infections in human immunodeficiency virus-infected patients. World J Gastroenterol 2002;25:125-135.
7. Pappas PG, Kauffman CA, Andes D, et al. Clinical practice guidelines for the management of candidiasis: 2009 update by the Infectious Diseases Society of America. Clin Infect Dis 2009;48:503-523.
8. Collaborative DHDG Treatment Study Group. Treatment of serious cytomegalovirus infections with ganciclovir in patients with AIDS and other immunodeficiencies. N Engl J Med 1986;314:801-805.
9. Brechley JM, Shacker TW, Ruff LE, et al. CD4+ T cell depletion during all stages of HIV disease occurs predominantly in the gastrointestinal tract. J Exp Med 2004;200:749-759.
10. Weber R, Ledergerber B, Zbinden R, et al. Enteric infection and diarrhoea in human immunodeficiency virus infected persons. Arch Intern Med 1999; 59:1473-1480.
11. Sharma MP, Bhatia V. Abdominal tuberculosis. Indian J Med Res 2004;120:305.
12. Friedman SL, Wright TL, Altman DF. Gastrointestinal Kaposi sarcoma in patients with acquired immune deficiency syndrome: endoscopic and autopsy findings. Gastroenterology 1985;89:102-108.
13. Smit S, Botha R, Barry R, Hartsliet M, Du Toit. HIV and the general surgeon. 193:1-5.
14. Metha SH, Lucas GM, Mirel LB, et al. Limited effectiveness of antiviral therapy treatment for hepatitis C in urban HIV clinic. AIDS 2006;20:2361-2369.
15. Thio CL, Seaberg EC, Skolansky R Jr, et al. HIV-1 hepatitis B virus and the risk of liver-related mortality in the multicentre cohort study (MACS). Lancet 2002;360:1921-1926.
16. Harry HX. Role of endoscopy in diagnosing opportunistic infections in human immunodeficiency virus-infected patients. World J Gastroenterol 2009;15:1050-1056.
17. Bini EJ, Green B, Poles MA. Screening colonoscopy for detection of neoplastic lesions in asymptomatic HIV infected subjects. Gut 2009;58:1129-1134.
18. Sulkowski MS, Thomas DL. Hepatitis C in the HIV infected person. Ann Intern Med 2003;138:197-207.
19. Smit S, Du Toit RS. The acute AIDS abdomen -- prospective clinical and pathological study. S Afr J Surg 2005;43:88.
20. Wilcox CM, Saag MS. Gastrointestinal complications of HIV infection: changing priorities in the HAART era. Gut 2008;57:861-870.
21. Qurishi N, Kreuzberg C, Luchters G, et al. Effect of antiretroviral therapy on liver related mortality in patients with HIV and hepatitis C virus co-infection. Lancet 2003;362:1708-1713.
22. Meng-Shuan, Szu-Min H, et al. Association between amebic liver abscess and human immunodeficiency virus infection in Taiwanese subjects. BMC Infectious Diseases 2008;8:48.
23. Lizardi-Cervera J, Soto R, et al. Hepatobiliary diseases in patients with HIV treated with non highly active antiretroviral therapy: frequency and clinical manifestations. Ann Hepatol 2005;4:188-191.
24. Rosenthal E, Poiree M, et al. Mortality due to hepatitis C-related liver diseases in HIV infected patients in France (Motravac 2001 study). AIDS 2003;17:1803-1809.
25. Anthony PP. Hepatocellular carcinoma: an overview. Histopathology 2001;39:109-118.
26. Prachalias AA, Pozniak A, Talor C, et al. Liver transplantation in adults co-infected with HIV. Transplantation 2001;72:1684-1688.
27. Cappell MS, Marks M. Acute pancreatitis in HIV-seropositive patients: A case control study of 44 patients. Am J Med 1995;3:243.
28. Bonacini M. Pancreatic involvement in human immunodeficiency virus infection. J Clin Gastroenterol 1991;13:58.
29. Wilcox CM, Forsmark CE, Grendell JH, et al. Cytomegalovirus-associated acute pancreatic disease in patients with acquired immunodeficiency syndrome. Report of two patients. Gastroenterology 1990;99:263.
30. Pauwels A, Eliasiewicz M, Larrey D. Pentamidine-induced acute pancreatitis in a patient with AIDS. J Clin Gastroenterol 1990;12:457.

THE PROBLEM OF HIV-RELATED LYMPHADENOPATHY

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References

1. Gorall AH, et al. Evaluation of lymphadenopathy. Principles of Primary Care. 5th ed., 2005.
2. AETC: AIDS Education and Training Centers. National Resource Center HIV Manual, 2006.
3. Boswell SL. Approach to patient with HIV infection. Principles of Primary Care. 5th ed. 2005.
4. Kanwar VS, Sills RH. Lymphadenopathy. Medscape, May 2009.
5. Carpenter JR, Hale BR. Early symptomatic HIV infection. e-Medicine, June 2009.
6. Vansiri HR, Nandini NM, Sunila R. Fine-needle aspiration cytology findings in human immunodeficiency virus lymphadenopathy. Indian J Pathol Microbiol 2008;
7. Ferrer R. Lymphadenopathy: differential diagnosis and evaluation. Am Fam Physician 1998;

HIV POST-EXPOSURE PROPHYLAXIS AND ANTIRETROVIRAL THERAPY FOR ADULTS AND ADOLESCENTS: A PRACTICAL GUIDE FOR SURGEONS AND GENERAL PRACTITIONERS

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References

1. Bartlett JG, Hirsch MS, McGovern BHC Selecting antiretroviral regimens for the treatment naive HIV infected patient. <http://www.uptodate.com/online> (Accessed: April 2010)
2. Horberg MA and colleagues at Kaiser Permanente Medical Care Program – Northern California, Oakland. Science Daily 20 Dec 2006.
3. Henderson DK, Fahey BJ, Willy M, et al. Risk for occupational transmission of human immunodeficiency virus type 1(HIV-1) associated with clinical exposures. *Ann Intern Med* 1990;113:740-746.
4. Working Group of the Royal College of Pathologists. HIV infection: hazards of transmission to patients and health care workers during invasive procedures. London: RCP, 1992.
5. Southern African HIV Clinicians Society. Guidelines for antiretroviral therapy in adults. January 2008: <http://sahivsoc.org/index.php> (Accessed April 2010).
6. <http://www.aidsinfo.nih.gov/> New Changes in DHHS Guidelines (Accessed April 2010).
7. DOH. HIV treatment guidelines South Africa 2010 www.healthlink.org.za/publications/868c (Accessed April 2010).
8. International AIDS Society, USA Panel. Recommendations for antiretroviral treatment of adult HIV infection. *JAMA* 2008;300(5):555-570.
9. Rapid advice: antiretroviral therapy for HIV infection in adults and adolescents. http://www.who.int/hiv/pub/arv/art_key_mess.pdf (Accessed April 2010).

GYNAECOLOGICAL SURGERY IN THE HIV-POSITIVE PATIENT

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References

1. Cejtin HE. Gynecologic issues in the HIV-infected woman. *Infect Dis Clin North Am* 2008; 2(4):709-739, vii.
2. Horberg MA, Hurley LB, et al. Surgical outcomes in human immunodeficiency virus-infected patients in the era of highly active antiretroviral therapy. *Arch Surg* 2006;141:1238-1245.
3. Dua RS, Wajed SA, Winslet MC. Impact of HIV and AIDS on surgical practice. *Ann R Coll Surg Engl* 2007;89(4):354-358.
4. Cacala SR, Mafana E, Thomson SR, Smith A. Prevalence of HIV status and CD4 counts in a surgical cohort: their relationship to clinical outcome. *Ann R Coll Engl* 2006;88(1):46-51.
5. Massad LS, Evans C, Weber K, et al. Hysterectomy among women with HIV: indications and incidence. *J Acquir Immune Defic Syndr* 2007;44:566-568.
6. Irwin KL, Moorman AC, O'Sullivan MJ, et al. *Obstet Gynecol* 2000;95(4):525-534.
7. Franz J, Jamieson DJ, Randall H, Spann C. Outcomes of hysterectomy in HIV-seropositive women compared to seronegative women. *Infect Dis Obstet Gynecol* 2005;13(3):167-169.
8. Mohamed Z. HIV-associated malignancies have become increasingly important with the spread of HIV infection. *CME* 2007;25(2):70-74.
9. Lee YC, Holcomb K, Buhl A, Holden J, Abulafia O. Rapid progression of primary vaginal squamous cell carcinoma in a young HIV-infected woman. *Gynecol Oncol* 2000;78(3 Pt 1):380-382.
10. Elit L, Voruganti S, Simunovic M. Invasive vulva cancer in a woman with HIV: case report and review of the literature. *Gynecol Oncol* 2005;98(1):151-154.

Vascular disease in HIV/AIDS

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References

- Monsuez JJ, Charniot JC, Escout L, et al. HIV-associated vascular diseases: Structural and functional changes, clinical implications. *Int J Cardiol* 2009;133:293-306.
- Grinspoon SK, Grunfeld C, Kotler DP, et al. State of the Science Conference: Initiative to Decrease Cardiovascular Risk and Increase Quality of Care for Patients Living With HIV/AIDS: Executive Summary. *Circulation* 2008;118:198-210.
- Volberding PA, Murphy RL, Barbaroc G, et al. The Pavia consensus statement. *AIDS* 2003;17(suppl 1):S170-S179.
- Van Marle J, Mistry PP, Botes K. HIV-occlusive vascular disease. *S Afr J Surg* 2009;47(2):36-42.
- Nair R, Robbs JV, Chetty R, Naidoo NG, Woolgar J. Occlusive arterial disease in HIV-infected patients: a preliminary report. *Eur J Endovasc Surg* 1995;154:422-432.
- Botes K, Van Marle J. Surgical intervention for HIV related vascular disease. *Eur J Vasc Endovasc Surg* 2007;34:390-396.
- Periard D, Cavassini M, Taffe P, et al. High prevalence of peripheral arterial disease in HIV-infected persons. *CID* 2008;46:761-767.
- Mulaudzi TV, Robbs JV, Pillay W, et al. Thrombectomy in HIV related peripheral arterial thrombosis: A preliminary report. *Eur J Vasc Endovasc Surg* 2005;30:102-106.
- Botes K, Van Marle J. Surgical intervention for HIV related vascular disease. *Eur J Vasc Endovasc Surg* 2007;34: 390-396.
- Woolgar JD, Ray R, Maharaj K, Robbs JV. Colour Doppler and grey scale ultrasound features of HIV-related vascular aneurysms. *Br J Radiol* 2002;75:884-888.
- Mulaudzi TV. HIV-associated vasculopathy. *CME* 2009;27(7):320-322.
- Robbs JV. Pathogenesis and pathology of HIV-related large-vessel disease. *S Afr J Surg* 2009; 47(2):44-45.
- Crum-Cianflone NF, Weekes J, Bavaro M. Review – Thromboses among HIV-infected patients during the highly active antiretroviral therapy era. *AIDS Patient Care and STDs* 2008;22(10): 771-778.
- Eyal A, Veller M. HIV and venous thrombotic events. *S Afr J Surg* 2009; 47(2):54-56.

HIV-related anal disease

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References

- Orkin BA. Operative management of anal and peri-anal complications of HIV infection and condyloma. *Operative Techniques in General Surgery* 2001;3(3):165-170.
- Smit SJA, Botha R, Barry R, eds. *HIV and the General Surgeon*. Berlin/Heidelberg: Springer Verlag, 2008:193.

- Vukasin P. Anal condylomata and HIV-associated anal disease. *Surg Clin North Am* 2002;82(6):1199-1211.
- Sobhani I, et al. Prevalence of high-grade dysplasia and cancer in the anal canal in human papilloma virus infected individuals. *Gastroenterology* 2001;120(4):857-866.
- Schechter WP. Examination of the anus and rectum in the HIV infected patient. *Anorectal Disease in Aids*. London: Edward Arnold, 1991:6.

Soft-tissue tumours and HIV/AIDS

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References

- Fletcher CDM. *Soft tissue tumours: Epidemiology, Clinical Features, Histopathological Typing and Grading*. Geneva: WHO, 2007.
- Kimchi E, et al. *ACS Surgery: Principles and Practice, Soft-Tissue Sarcoma*. 2007.
- AJCC Cancer Staging Manual. 2002.
- Townsend. *Sabiston's: Textbook of Surgery*. 17th ed. ch. 30.
- Antman K, et al. *Karposi Sarcoma*. 2000.
- Chang Y, et al. Identification of herpes virus like DNA sequences in AIDS associated Karposi's sarcoma. *Science* 1994.
- McClain KL, et al. Association of Epstein-Barr virus with leiomyosarcomas in young people with AIDS. *N Engl J Med* 1995.
- Marotta D. Soft tissue non-Hodgkin's lymphoma of a shoulder with HIV patient: a report of a case and review of the literature. *World Journal of Surgical Oncology* 2008.

Male genital disease in HIV and AIDS

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References

- Krieger JN. Urologic implications of AIDS and HIV infection. In: *Campbell's Urology*. 9th ed. 386.
- World Health Organization: *The World Health Report in 2004 – changing history*. <http://www.who.int/whr>
- United Nations. *Joint United Nations Project on HIV/AIDS: 2004 Report on the Global Aids Epidemic*. Geneva: UN, 2004.
- Simonsen JN, Cameron DW, Gakinya MN, et al. Human immunodeficiency virus among men with sexually transmitted diseases. Experience from a center in Africa. *N Engl J Med* 1988;319(5):274-278.
- Smith DM, Wong JK, Shao H, et al. Long term persistence of transmitted HIV drug resistance in male genital tract secretions: Implications for secondary transmission. *J Infect Dis* 2007;196(3):356-360.
- Auvert B, Buve A, Ferry B, et al. Ecological and

individual level analysis for HIV infection in four urban populations in Sub-Saharan Africa with different levels of HIV infection. *AIDS* 2001;15 (Suppl 4):S15-30.

- Mayer KH, Anderson DJ. Heterosexual HIV transmission. *Infect Agents Dis* 1995;4(4):273-284.
- Centers for Disease Control and Prevention. Updated US Public Health Service guidelines for the management of occupational exposures to HBV, HCV and HIV and recommendations for post exposure prophylaxis. *MMWR Morb Mortal Wkly Rep* 2001;50:1.
- Wawer MJ, Sewankambo NK, Serwadda D, et al. Control of sexually transmitted diseases for AIDS prevention in Uganda: A randomized community trial, Rakai Project Study Group. *Lancet* 1999;353(4152):525-535.
- Winchester R, Bernstein DH, Fischer HD, et al. The co-occurrence of Reiter's syndrome and acquired immune deficiency. *Ann Intern Med* 1987;106(1):19-26.
- Izu R, Manzano D, Diaz Perez JL. Giant molluscum contagiosum presenting as a tumor in an HIV infected patient. *Int J Dermatol* 1994;33(4):266-267.
- Leprot C, Rousseau F, Peronne C, et al. Bacterial prostatitis in patients infected with the human immunodeficiency virus. *J Urol* 1989;141(2):334-336.
- Randazzo DN, Michalski FJ. Cytomegaloviral epididymitis in a patient with the acquired immune deficiency syndrome. *J Urol* 1986;136(5):1095-1097.
- McKay TC, Waters WB. Fournier's gangrene as the presenting sign of an undiagnosed human immunodeficiency virus infection. *J Urol* 1994; 152:1552-1554.
- Chang H, Wachtman LM, Pearson CB, et al. Non-human primate model of Kaposi's sarcoma – associated herpes virus infection. *Phos pathog* 2009;5(10):e1000606.
- Vaccher E, Spina M, Talamini R, et al. Improvement of systemic human immunodeficiency virus-related non-Hodgkin lymphoma outcome in the era of highly active antiretroviral therapy. *Clin Infect Dis* 2003;37(11):1556-1564.
- Barnholtz-Sloan JS, Maldonado JL, Pow-Song J, et al. Incidence trends in primary malignant penile cancer. *Urol Oncol* 2007;25(5):361-367.
- Kestelyn PH, Stevens A-M, Ndayambje A. HIV and conjunctival malignancies. *Lancet* 1990;336:51-52.
- Abouafia DM, Gibbons R. Penile cancer and human papilloma virus in a human immunodeficiency patient. *Cancer Invest* 2001;19:266-272.
- Vermeulen LP, Wentzel SW, Beukes C, et al. HIV in penile carcinoma: Prevalence and influence on age at diagnosis.
- Wilson WT, Frenkel E, Vuitch F, et al. Testicular tumors in men with human immunodeficiency virus. *J Urol* 1992;147(4):1038-1040.

Common head and neck problems in HIV-positive patients

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References

- Gurney TA, Murr AH. Otolaryngologic manifestations of human immunodeficiency

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- virus infection. *Otolaryngol Clin North Am* 2003;36:607-624.
- WorldHealthOrganization. WHO Case Definitions of HIV Surveillance and Revised Clinical Staging and Immunological Classification of HIV-related Disease in Adults and Children. Geneva: WHO, 2006.
 - Rajandram RK, Ramli R, Karim F, et al. Necrotizing gingivitis: a possible oral manifestation of ticlopidine-induced agranulocytosis. *N Z Med J* 2007;120:1256.
 - Saxe, N, Jessop, S, Todd, G. *Handbook of Dermatology for Primary Care*. Oxford: Oxford University Press, 1999.
 - The problem of HIV-related lymphadenopathy, WJ Jacobs
 - Weinert M, et al. Oral manifestations in HIV infection. *Ann Intern Med* 1996;125:486-496.

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References

- Ferrand RA, Corbett EL, Wood R, et al. Aids among older children and adolescents in Southern Africa: projecting the time course and magnitude of the epidemic. *AIDS* 2009;23(15):2039-2046.
- Spira R, Lepage P, Msellati P, et al. Natural history of human immunodeficiency virus type 1 infection in children: a five-year prospective study in Rwanda. Mother-to-Child HIV-1 Transmission Study Group. *Pediatrics* 1999;105(5):e56.
- Policy and Guidelines for the Implementation of the PMTCT Programme (Dept of Health – www.doh.gov) (Accessed:??)
- Adams EJ, Matheson PB, Thomas PA, et al. Neonatal predictors of infection status and early death among 332 infants at risk of HIV-1 infection monitored prospectively from birth. New York City Perinatal HIV Transmission Collaborative Study Group. *Pediatrics* 1995;96(3):451-458.
- Vomink J, Siegfried NL, Van der Merwe L, Brocklehurst P. Antiretrovirals for reducing the risk of mother-to-child transmission of HIV infection. *Cochrane Database Syst Rev* 2007;1:CD003510.
- Comeau AM, Scherzler M, Mushinsky G, Grady GF. Detection of HIV in specimens from newborn screening programs. *N Engl J Med* 1992;326(25):1703.
- Krivine A, Firtion G, Cao, L, Francoual C, Henrion R, Lebon P. HIV replication during the first weeks of life. *Lancet* 1992;339:1187-1189.
- Desfrere, et al. Maternal HIV and NEC in VLBW infants. *AIDS* 2005;19:1487-1493.
- Goedert JJ. The epidemiology of AIDS malignancies. *Semin Oncol* 2000;27:390-401.
- Bonnet F, Lewden C, May T, et al. Malignancy-related causes of death in human immunodeficiency virus-infected patients in the era of highly active antiretroviral therapy. *Cancer* 2004;101:317-324.
- Shöfer H, Sachs DL. Kaposi's sarcoma. *HIV Medicine* 2007; ??:477-488.
- Behrens GM, Meyer D, Stroll M, Schmidt RE. Immune reconstitution syndromes in HIV-infection following effective anti-retroviral therapy. *Immunology* 2000;202:186-193.

The impact of HIV/AIDS on orthopaedic surgery

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References

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- Qaqish RB, Sims KA. Bone disorders associated with the human immunodeficiency virus: Pathogenesis and management. *Pharmacotherapy* 2004;24(10):1331-1346.
- Harrison WJ. HIV/AIDS in trauma and orthopaedic surgery. *J Bone Joint Surg Br* 2005;87-B:341-343.
- Harrison WJ, et al. One-year follow-up of orthopaedic implants in HIV-positive patients. *International Orthopaedics (SICOT)* 2004;28:329-332.
- Harrison WJ, et al. Open fractures of the tibia in HIV positive patients; a prospective controlled single-blind study. *Malawi Medical Journal* 2009; 21:4.
- Hicks JL, et al. Infected joint replacements in HIV-positive patients with haemophilia. *J Bone Joint Surg Br* 2001;83-B:1050-1054.
- Young WE. Elective spinal surgery in asymptomatic HIV-seropositive persons. *Spine* 2005;30:256-259.
- Bahebeck J, Handy Eone D, et al. Implant orthopaedic surgery in HIV asymptomatic carriers: Management and early outcome. *Injury, Int J Care Injured* 2009;40:1147-1150.
- Harrison WJ, et al. Wound healing after implant surgery in HIV-positive patients. *J Bone Joint Surg Br* 2002;84-B:802-806.

MALNUTRITION IN PAEDIATRIC ONCOLOGY PATIENTS

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References

- Ladas JL, Sacks MS, Meacham L, *et al.* A multidisciplinary review of nutrition considerations in the pediatric oncology population: A perspective from children's oncology group. *Nutr Clin Prac* 2005; 20(4): 377-393.
- Pedrosa F, Bonilla M, Liu A, Smith K, *et al.* Effect of malnutrition at the time of diagnosis on the survival of treatment for cancer in El Salvador and Northern Brazil. *J Pediatr Hematol Oncol* 2000; 22(6): 502-505.
- Reilly JJ, Odame I, McColl JH, McAllister PJ, Gibson BES, Wharton BA. Does weight for height have prognostic significance in children with acute lymphoblastic leukaemia? *Am J Pediatr Hematol Oncol* 1994; 16(3): 225-230.
- Lee RD, Nieman DC. *Nutritional Assessment*. 3rd ed. New York: McGraw-Hill Company, 2003: 343-344.
- Sala A, Pencharz P, Barr RD. Children, cancer and nutrition – a dynamic triangle in review. *Cancer* 2004; 100(4): 677-687.
- Andrassy RJ, Chwals WJ. Nutritional support of the pediatric oncology patient. *Nutrition* 1998; 14(1): 124-129.
- Mauer AM, Burgess JB, Donaldson SS, *et al.* Special nutritional needs of children with malignancies: A review. *JPEN* 1990; 14(3): 315-324.
- Garófolo A, Lopez FA, Petrilli AS. High prevalence of malnutrition among patients with solid non-hematological tumors as found by skinfold and circumference measurements. *Sao Pau Med J* 2005; 123(6): 277-278.
- Den Broeder E, Lippens RJJ, van't Hof MA, *et al.* Nasogastric tube feeding in children with cancer: The effect of two different formulas on weight, body composition, and serum protein concentrations. *JPEN* 2000; 24(6): 351-359.
- Schoeman J, Kruger MK, Dannhauser A. *The Effect of the Nutritional Status of Paediatric Oncology Patients with Cancer on Disease Outcome*. Pretoria: Kitskopie (EDMS) Bpk (Pty) Ltd, 2009: 7-136.
- Pietsch JB, Ford C, Whitlock JA. Nasogastric tube feedings in children with high-risk cancer: a pilot study. *J Pediatr Hematol Oncol* 1999; 21(2): 111-114.
- Torun BN. Protein-energy malnutrition. In: Shils ME, Shike M, Ross AC, Caballero B, Cousins RJ, eds. *Modern Nutrition in Health and Disease*. Philadelphia: Lippincott Williams & Wilkins, 2006: 881, 887.
- Anthony P. Nutrition in cancer. Presented at Oncology Seminar: Nestle, Pretoria, South Africa. 28 March 2006.
- Tian J, Chen Z, Hang L. Effects of nutritional status and psychological status in gastrointestinal cancer patients on tolerance of treatment. *W J Gastro* 2007; 13(30): 4136-4140.
- Khan A, Sheikh M, Intekhab K. Pre-existing malnutrition and treatment outcome in children with acute lymphoblastic leukaemia. *J Pak Med Ass* 2006; 56(4): 171-173.