

**APPENDIX 11: RANDOMIZED CONTROLLED TRIALS OF ANY INTERVENTION FOR THE PREVENTION OF ORAL MUCOSITIS IN PEDIATRIC PATIENTS RECEIVING TREATMENT FOR CANCER OR UNDERGOING HEMATOPOIETIC STEM CELL TRANSPLANTATION – STUDY CHARACTERISTICS**

<b>STUDY CHARACTERISTICS AND PARTICIPANTS</b>											
First Author (Year)	Enrollment Year		Country of Patient Enrollment	Pharma Sponsorship Declared	Total N Randomized	Age Range	Specific Cancer Diagnosis	Population Type (Cancer, HSCT, Both)	Transplant Type	Treatment (Chemo alone, Radiation alone, Both, Not specified)	Treatment Regimen in Related to Intervention
	Start	End									
Patte (2002) [1]	1994	1996	France	No	149	NR	NHL	Cancer	NA	Chemo	COPADM
Michel (2000) [2]	1993	1998	France	No	67	NR	High risk ALL	Cancer	NA	Chemo	R3 and COPADM for 6 cycles total
Lehrnbecher (2007) [3]	1998	2003	Germany	No	317	0 to 18	AML	Cancer	NA	Chemo	Induction AML
Ladenstein (2010) [4]	2002	2005	16 European countries	Yes	239	1 to 17	High risk neuroblastoma	Cancer	NA	Chemo	Rapid COJEC
Cesaro (2013) [5]	2007	2011	Italy	No	61	1.1 to 16.8	Various	HSCT	Auto	Both	Various
Fox (2009) [6]	2000	2005	US	Yes	34	3.8 to 25.8	Sarcoma	Cancer	NA	Both	VDC and IE
Wexler (1996) [7]	NR	NR	US	No	37	1 to 24	Sarcoma	Cancer	NA	Both	NCI protocol 86C 169
Uderzo (2011) [8]	2005	2008	Italy	No	120	0.4 to 18.6	Hem malignancy	HSCT	Allo	Both	Timing based on HSCT, not conditioning
Aquino (2005) [9]	1998	2002	US	No	130	NR	Various	HSCT	Auto, allo	Both	Various
Ward (2009) [10]	1999	2005	UK	Yes	76	1 to 22	Various	Cancer	NA	Chemo	Various
Sencer (2012) [11]	2004	2006	US, Israel	No	195	3 to 25	Various	HSCT	Auto, allo	Not specified	Timing based on HSCT, not conditioning
Oberbaum (2001) [12] (companion paper: [13])	NR	NR	Israel	No	32	3 to 25	Various	HSCT	Auto, allo	Not specified	Various
Abramoff (2008) [14]	2003	2003	Brazil	Yes	22	7 to 23	Osteosarcoma and ALL	Cancer	NA	Chemo	Various
Cruz (2007) [15]	2003	2005	Brazil	Yes	62	3 to 18	Various	Both	Unclear	Chemo	Various
Raether (1989) [16]	1986	1987	US	Yes	47	1.6 to 21.5	Various	HSCT	Auto, allo	Both	Various
Cheng (2004) [17] (companion papers:[18] [19])	2000	2001	Hong Kong	No	40	6 to 16	Various	Cancer	NA	Chemo	Various
Shenep (1988) [20]	1983	1987	US	Yes	48	NR	AML	Cancer	NA	Chemo	Induction AML
Sung (2007) [21]	2001	2004	Canada	Yes	45	6.4 to 15.1	Various	Cancer	NA	Chemo	Doxorubicin

## STUDY CHARACTERISTICS AND PARTICIPANTS

First Author (Year)	Enrollment Year		Country of Patient Enrollment	Pharma Sponsorship Declared	Total N Randomized	Age Range	Specific Cancer Diagnosis	Population Type (Cancer, HSCT, Both)	Transplant Type	Treatment (Chemo alone, Radiation alone, Both, Not specified)	Treatment Regimen in Related to Intervention
	Start	End									
de Koning (2007) [22]	2001	2004	Netherlands	Yes	30	1 to 14	Various	Cancer	NA	Chemo	Various
Gandemer (2007) [23]	1999	2002	France	Yes	145	5.2 to 18.7	Various	Both	Auto, allo	Chemo	Various
Rojas de Morales (2001) [24]	1998	1999	Venezuela	Yes	16	5 to 12	ALL or lymphoma	Cancer	NA	Chemo	Not stated

Abbreviations: NR - not reported; NA - not applicable; pharma – pharmaceutical company; N – number; HSCT - hematopoietic stem cell transplantation; chemo – chemotherapy; NHL – non-Hodgkin’s lymphoma; ALL - acute lymphoblastic leukemia; AML – acute myeloid leukemia; auto – autologous; allo – allogeneic; hem – hematological; COPADM - cyclophosphamide, vincristine, prednisone, doxorubicin and methotrexate; R3 - high-dose cytarabine, etoposide and dexamethasone; COJEC - cisplatin, vincristine, carboplatin, etoposide and cyclophosphamide; VDC - vincristine, doxorubicin and cyclophosphamide; IE – ifosfamide and etoposide; NCI – National Cancer Institute; US – United States; UK – United Kingdom

## REFERENCES

1. Patte C, Laplanche A, Bertozzi AI, et al. Granulocyte colony-stimulating factor in induction treatment of children with non-Hodgkin's lymphoma: a randomized study of the French Society of Pediatric Oncology. *Journal of clinical oncology : official journal of the American Society of Clinical Oncology* 2002;**20**(2):441-8
2. Michel G, Landman-Parker J, Auclerc MF, et al. Use of recombinant human granulocyte colony-stimulating factor to increase chemotherapy dose-intensity: a randomized trial in very high-risk childhood acute lymphoblastic leukemia. *Journal of clinical oncology : official journal of the American Society of Clinical Oncology* 2000;**18**(7):1517-24
3. Lehrnbecher T, Zimmermann M, Reinhardt D, Dworzak M, Stary J, Creutzig U. Prophylactic human granulocyte colony-stimulating factor after induction therapy in pediatric acute myeloid leukemia. *Blood* 2007;**109**(3):936-43 doi: 10.1182/blood-2006-07-035915published Online First: Epub Date]].
4. Ladenstein R, Valteau-Couanet D, Brock P, et al. Randomized Trial of prophylactic granulocyte colony-stimulating factor during rapid COJEC induction in pediatric patients with high-risk neuroblastoma: the European HR-NBL1/SIOPEN study. *Journal of clinical oncology : official journal of the American Society of Clinical Oncology* 2010;**28**(21):3516-24 doi: 10.1200/JCO.2009.27.3524published Online First: Epub Date]].
5. Cesaro S, Nesi F, Tridello G, et al. A randomized, non-inferiority study comparing efficacy and safety of a single dose of pegfilgrastim versus daily filgrastim in pediatric patients after autologous peripheral blood stem cell transplant. *PloS one* 2013;**8**(1):e53252 doi: 10.1371/journal.pone.0053252published Online First: Epub Date]].
6. Fox E, Widemann BC, Hawkins DS, et al. Randomized trial and pharmacokinetic study of pegfilgrastim versus filgrastim after dose-intensive chemotherapy in young adults and children with sarcomas. *Clin Cancer Res* 2009;**15**(23):7361-7 doi: 10.1158/1078-0432.CCR-09-0761published Online First: Epub Date]].

7. Wexler LH, Weaver-McClure L, Steinberg SM, et al. Randomized trial of recombinant human granulocyte-macrophage colony-stimulating factor in pediatric patients receiving intensive myelosuppressive chemotherapy. *Journal of clinical oncology : official journal of the American Society of Clinical Oncology* 1996;**14**(3):901-10
8. Uderzo C, Rebora P, Marrocco E, et al. Glutamine-enriched nutrition does not reduce mucosal morbidity or complications after stem-cell transplantation for childhood malignancies: a prospective randomized study. *Transplantation* 2011;**91**(12):1321-5 doi: 10.1097/TP.0b013e31821ab959published Online First: Epub Date]].
9. Aquino VM, Harvey AR, Garvin JH, et al. A double-blind randomized placebo-controlled study of oral glutamine in the prevention of mucositis in children undergoing hematopoietic stem cell transplantation: a pediatric blood and marrow transplant consortium study. *Bone marrow transplantation* 2005;**36**(7):611-6 doi: 10.1038/sj.bmt.1705084published Online First: Epub Date]].
10. Ward E, Smith M, Henderson M, et al. The effect of high-dose enteral glutamine on the incidence and severity of mucositis in paediatric oncology patients. *European journal of clinical nutrition* 2009;**63**(1):134-40 doi: 10.1038/sj.ejcn.1602894published Online First: Epub Date]].
11. Sencer SF, Zhou T, Freedman LS, et al. Traumeel S in preventing and treating mucositis in young patients undergoing SCT: a report of the Children's Oncology Group. *Bone marrow transplantation* 2012;**47**(11):1409-14 doi: 10.1038/bmt.2012.30published Online First: Epub Date]].
12. Oberbaum M, Yaniv I, Ben-Gal Y, et al. A randomized, controlled clinical trial of the homeopathic medication TRAUMEEL S in the treatment of chemotherapy-induced stomatitis in children undergoing stem cell transplantation. *Cancer* 2001;**92**(3):684-90
13. Oberbaum M, Yaniv I, Ben-Gal Y, et al. A randomized, controlled clinical trial of the homeopathic medication Traumeel S in the treatment of chemotherapy-induced stomatitis in children undergoing stem cell transplantation. [German]. *Biologische Medizin* 2002;**31**(1):25-31

14. Abramoff MMF, Lopes NNF, Lopes LA, et al. Low-level laser therapy in the prevention and treatment of chemotherapy-induced oral mucositis in young patients. *Photomed Laser Surg* 2008;**26**(4):393-400 doi: <http://dx.doi.org/10.1089/pho.2007.2144published> Online First: Epub Date]].
15. Cruz LB, Ribeiro AS, Rech A, Rosa LGN, Castro CG, Jr., Brunetto AL. Influence of low-energy laser in the prevention of oral mucositis in children with cancer receiving chemotherapy. *Pediatr Blood Cancer* 2007;**48**(4):435-40
16. Raether D, Walker PO, Bostrum B, Weisdorf D. Effectiveness of oral chlorhexidine for reducing stomatitis in a pediatric bone marrow transplant population. *Pediatric dentistry* 1989;**11**(1):37-42
17. Cheng KK, Chang AM, Yuen MP. Prevention of oral mucositis in paediatric patients treated with chemotherapy; a randomised crossover trial comparing two protocols of oral care. *European journal of cancer* 2004;**40**(8):1208-16 doi: 10.1016/j.ejca.2003.10.023published Online First: Epub Date]].
18. Cheng KKF. Children's acceptance and tolerance of chlorhexidine and benzydamine oral rinses in the treatment of chemotherapy-induced oropharyngeal mucositis. *Eur J Oncol Nurs* 2004;**8**(4):341-9
19. Cheng KKF, Chang AM. Palliation of oral mucositis symptoms in pediatric patients treated with cancer chemotherapy. *Cancer Nurs* 2003;**26**(6):476-84
20. Shenep JL, Kalwinsky DK, Hutson PR, et al. Efficacy of oral sucralfate suspension in prevention and treatment of chemotherapy-induced mucositis. *The Journal of pediatrics* 1988;**113**(4):758-63
21. Sung L, Tomlinson GA, Greenberg ML, et al. Serial controlled N-of-1 trials of topical vitamin E as prophylaxis for chemotherapy-induced oral mucositis in paediatric patients. *European journal of cancer* 2007;**43**(8):1269-75 doi: 10.1016/j.ejca.2007.02.001published Online First: Epub Date]].
22. de Koning BA, Philipsen-Geerling B, Hoijer M, Hahlen K, Buller HA, Pieters R. Protection against chemotherapy induced mucositis by TGF-beta(2) in childhood cancer patients: results from a randomized cross-over study. *Pediatr Blood Cancer* 2007;**48**(5):532-9 doi: 10.1002/pbc.20910published Online First: Epub Date]].

23. Gandemer V, Le Deley MC, Dollfus C, et al. Multicenter randomized trial of chewing gum for preventing oral mucositis in children receiving chemotherapy. *Journal of pediatric hematology/oncology* 2007;**29**(2):86-94 doi: 10.1097/MPH.0b013e318030a3e4published Online First: Epub Date]].
24. Rojas de Morales T, Zambrano O, Rivera L, et al. Oral-disease prevention in children with cancer: testing preventive protocol effectiveness. *Medicina Oral* 2001;**6**(5):326-34