

Revised guidelines for booster vaccination against hepatitis B

Hepatitis B vaccine was first licensed for use in Canada in 1982.¹ Initial follow-up studies indicated that 5 years after the primary course of vaccination a significant proportion of the recipients had a level of antibody (anti-HBs) to hepatitis B surface antigen (HBsAg) below that believed to be required for protection (10 mIU/mL).^{2,3} On this basis the National Advisory Committee on Immunization (NACI) recommended that a booster dose be given 5 years after completion of the primary series but acknowledged that the need for and the timing of booster doses were not known with certainty.⁴

Recent studies have shown that the vaccine conveys a high degree of protection against clinical disease in immunocompetent people despite declining levels of anti-HBs.^{2,5,6} One follow-up study involving 1630 Yupik Alaskan Eskimos vaccinated in 1981 demonstrated that after 7 years none of the recipients had had clinical hepatitis or become chronic carriers. Eight recipients, however, had serologic evidence of infection in the form of antibodies to hepatitis B core antigen (anti-HBc), although HBsAg was not detected.⁵ These findings support other observations that immunologic memory persists and confers protection against clinical hepatitis B.^{7,8}

Therefore, on the basis of evidence now available NACI no longer recommends routine booster vaccination in immunocompetent people. Ongoing surveillance of hepatitis B in vaccinated populations

will provide future guidance about the need for and timing of booster doses in immunocompetent people.

Immunocompromised people, such as those infected with the human immunodeficiency virus and patients undergoing hemodialysis, often respond suboptimally to the vaccine. Such people may need booster doses to avoid significant disease or the carrier state that may result from exposure to the hepatitis B virus after vaccination.^{3,9} The optimal timing of booster doses in immunocompromised people who are at continued risk of exposure is unknown; therefore, the timing should be based on the severity of the compromised state and the results of regular monitoring (e.g., annual determination of the anti-HBs level).

References

1. Statement on hepatitis B vaccine. *Can Dis Wkly Rep* 1982; 8: 221-224
2. Wainwright RB, McMahon BJ, Bulkow LR et al: Duration of immunogenicity and efficacy of hepatitis B vaccine in a Yupik Eskimo population. *JAMA* 1989; 261: 2362-2366
3. Hadler SC, Francis DP, Maynard JE et al: Long-term immunogenicity and efficacy of hepatitis B vaccine in homosexual men. *N Engl J Med* 1986; 315: 209-214
4. National Advisory Committee on Immunization: *Canadian Immunization Guide*, 3rd ed (cat H49-8/1989E), Dept of National Health and Welfare, Ottawa, 1989

Based on material previously reported in Canada Communicable Disease Report (a publication of the Bureau of Communicable Disease Epidemiology, Laboratory Centre for Disease Control [LCDC], Department of National Health and Welfare, Ottawa, Ont.) by the National Advisory Committee on Immunization: Drs. Susan E. Tamblyn (chairman), medical officer of health, Perth District Health Unit, Stratford, Ont.; Wark Boucher, acting director, Bureau of Biologics, Department of National Health and Welfare, Ottawa, Ont.; Jacqueline A.K. Carlson, physician manager, Disease Control and Epidemiology Service, Ontario Ministry of Health, Toronto, Ont.; John Conly, head, Division of Infectious Diseases, University Hospital, Saskatoon, Sask.; Pierre Déry, chef du Service des maladies infectieuses, Département de pédiatrie, Centre hospitalier de l'Université Laval, Sainte-Foy, Que.; Ronald Gold, chief, Division of Infectious Diseases, Hospital for Sick Children, Toronto, Ont.; Scott A. Halperin, assistant professor of pediatrics and microbiology, Dalhousie University, Halifax, NS; Gregory Hammond, director, Cadham Provincial Laboratory, Winnipeg, Man.; Barbara J. Law, Department of Medical Microbiology, University of Manitoba, Winnipeg, Man.; Yves Robert, Département de santé communautaire Saint-Luc, Montreal, Que.; John Spika, director, Bureau of Communicable Disease Epidemiology, LCDC, Department of National Health and Welfare, Ottawa, Ont.; David Lorne Tyrrell, chairman, Department of Medical Microbiology and Infectious Diseases, University of Alberta, Edmonton, Alta.; and John Waters, director, Communicable Disease Control and Epidemiology, Alberta Community and Occupational Health, Edmonton, Alta. (1992; 18: 121-122). Publication in CMAJ is with permission of the committee and the bureau.

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5. Wainwright RB, McMahon BJ, Bulkow LR et al: Protection provided by hepatitis B vaccine in a Yupik Eskimo population — seven-year results. *Arch Intern Med* 1991; 151: 1634-1636
6. Yoshida K, Fujiyama S, Sato T: Persistence of anti-HBs and protective efficacy after administration of hepatitis B vaccine. *J Gastroenterol Hepatol* 1990; 5: 126-129
7. Jilg W, Schmidt M, Deinhardt F: Persistence of specific antibodies after hepatitis B vaccination. *J Hepatol* 1988; 6: 201-207
8. Van Hattam J, Maikoe T, Poel J et al: In vitro anti-HBs production by individual B cells of responders to hepatitis B vaccine who subsequently lost antibody. In Hollinger FB, Lemon SM, Margolis HS (eds): *Viral Hepatitis and Liver Disease*, Williams & Wilkins, Baltimore, 1991: 774-776
9. Hadler SC, Margolis HS: Hepatitis B immunization. In Remington JS, Swartz MN (eds): *Current Clinical Topics in Infectious Diseases*, Blackwell Sci, Cambridge, Mass, 1992: 282-308

Conferences

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Feb. 5-6, 1993: 3rd Foot Care Conference — The High Risk Foot

Glencoe Club, Calgary

Keynote speaker: Dr. John A. Spittell, Jr., Mayo Clinic, Rochester

Heather Trowell, coordinator, Geriatric Foot Clinic, Southern Alberta Regional Geriatric Centre, Colonel Belcher Hospital, 1213 4th St. SW, Calgary, AB T2R 0X7; (403) 264-8225

Feb. 21-25, 1993: Medical Society of PanAmerican Doctors 48th Annual Meeting

Hotel Sierra Manzanillo, Manzanillo, Mexico

Papers requested in English or Spanish.

Dr. J.R. Brummitt, Canadian program chairperson, Medical Society of PanAmerican Doctors A.C., 91 Edgemont Estates Dr. NW, Calgary, AB T3A 2M3; (403) 239-7790

Mar. 3-6, 1993: 16th All Nepal Medical Conference of the Nepal Medical Association — Environment, Health and Physicians

Kathmandu, Nepal

Nepal Medical Association, Secretariat, Nepal Medical Association Building, Siddhi Sadan, Exhibition Road, GPO Box 189, Kathmandu, Nepal

Mar. 14-18, 1993: 4th International Conference on the Reduction of Drug Related Harm (sponsored by the Dutch Ministry of Welfare, Health and Cultural Affairs, the Municipality of Rotterdam and the *International Journal on Drug Policy*)

Rotterdam, the Netherlands

Conference Secretariat, Essenlaan 16, PO Box 4193, 3006 AD, Rotterdam, the Netherlands; telephone 01-31-20-0-10-452-51-66, fax 01-31-20-0-10-452-07-71

Mar. 18-23, 1993: Association for Applied Psychophysiology and Biofeedback 24th Annual Meeting

Biltmore Hotel, Los Angeles

Joette Cross, director of meetings, Association for Applied Psychophysiology and Biofeedback, Ste. 304, 10200 W 44th Ave., Wheat Ridge, CO 80033; (303) 422-8436, fax (303) 422-8894

Apr. 5-9, 1993: 4th International Meeting on Trace Elements in Medicine and Biology — Trace Elements and Free Radicals in Oxidative Diseases (organized by the Society for Free Radical Research and the Société francophone d'étude et de recherche sur les éléments trace essentiels)

Chamonix, France

Official language: English. Simultaneous translation languages: French-English.

Prof. Alain Favier or Mme. Arlette Alcaraz, Laboratoire de Biochimie C, Hôpital A. Michallon, BP 217X, 38043 Grenoble Cédex 09, France; telephone 011-33-76-76-54-07, fax 011-33-76-42-66-44

Apr. 22-24, 1993: Interprofessional Continuing Education Conference — Pediatric AIDS: Women, Children, Youth and HIV (offered in cooperation with British Columbia's Children's Hospital and Sunny Hill Hospital for Children)

Coast Plaza Hotel at Stanley Park, Vancouver

1993 Pediatric AIDS Conference, Continuing Education in the Health Sciences, 105-2194 Health Sciences Mall, University of British Columbia, Vancouver, BC V6T 1Z3; (604) 822-2626, fax (604) 822-4835 (after Oct. 31, 1992)

May 20-21, 1993: Centre for Health Economics and Policy Analysis 6th Annual Health Policy Conference — The Buck Stops Where? Accountabilities in Health and Health Care

Hamilton Convention Centre, Hamilton, Ont.

Abstract deadline is Dec. 15, 1992.

Lynda Marsh, conference administrator, Centre for Health Economics and Policy Analysis, McMaster University, 3H26-1200 Main St. W, Hamilton, ON L8N 3Z5; (416) 525-9140, ext. 2135, fax (416) 546-5211

June 3-5, 1993: 3rd International "Biologic Effects of Light" Symposium

Wenkenhof Riehen Meeting Center, Basel, Switzerland
Abstract deadline for the Arnold Rikli Award is Dec. 31, 1992.

Light Symposium Foundation, Registration Office, Bahnhofstrasse 47a, CH-4132 Muttenz, Switzerland, telephone 01-41-61-61-09-89, fax 01-41-61-61-10-56; or Scott Bowen Watt, Light Symposium Foundation Incorporated, 3000 Miller Court W, Norcross, GA 30071; (404) 242-9087, fax (404) 242-7233

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Lignes directrices révisées relatives aux vaccins de rappel contre l'hépatite B

Le vaccin contre l'hépatite B a été autorisé pour la première fois au Canada en 1982.¹ Les études de suivi initiales ont démontré que 5 ans après la première série de vaccins, un pourcentage notable des sujets vaccinés présentaient un niveau d'anticorps (anti-HBs) à l'antigène de surface de l'hépatite B (HBsAg) inférieur au niveau jugé essentiel à la protection du sujet (10 mUI/mL).^{2,3} À la lumière de ces données, le Comité consultatif national de l'immunisation (CCNI) a recommandé qu'une dose de rappel soit administrée 5 ans après la première série de vaccins, tout en reconnaissant l'absence de certitude quant à la nécessité de ces doses de rappel et quant au moment où il convenait de les administrer.⁴

Selon des études récentes, le vaccin confère une protection élevée contre les signes cliniques de la maladie chez les personnes immunocompétentes, même si l'on constate une baisse du niveau d'anti-HBs.^{2,5,6} Une étude de suivi effectuée auprès de 1 630 Esquimaux Yupik de l'Alaska vaccinés en 1981 révèle que 7 ans après la vaccination aucun des vaccinés ne présentait de signes cliniques de l'hépatite ou n'était devenu un porteur chronique de la maladie. Toutefois, huit des sujets vaccinés présentaient des signes sérologiques d'infection, sous la forme d'anticorps de l'antigène nucléocapsidique de l'hépatite B (anti-HBc), bien que le HBsAg n'ait pas été décelé.⁵ Ces conclusions confirment d'autres observations selon lesquelles la mémoire immunologique demeure et confère une protection contre l'hépatite B clinique.^{7,8}

C'est pourquoi, à la lumière des données actuelles, le CCNI ne recommande plus l'administration systématique de vaccins de rappel aux personnes immunocompétentes. La surveillance permanente de l'hépatite B chez les populations vaccinées permettra de déterminer s'il convient dans l'avenir d'administrer des doses de rappel aux personnes immunocompétentes et quand il convient de le faire.

Les personnes immunodéprimées, par exemple, celles qui sont infectées par le virus de l'immunodéficience humaine et les hémodialysés, ont souvent une réaction sous-optimale au vaccin. Ces personnes devront peut-être recevoir une dose de rappel afin de se protéger contre une atteinte grave ou d'éviter de devenir porteurs de la maladie, en cas d'exposition au virus de l'hépatite B après la vaccination.^{3,9} On ignore à quel moment il est préférable d'administrer une dose de rappel aux personnes immunodéprimées qui sont constamment exposées à la maladie; on prendra par conséquent une décision à cet égard en fonction de la gravité de l'affaiblissement des défenses immunitaires du sujet et à la lumière des données découlant de la surveillance régulière (par exemple, la détermination, une fois l'an, du niveau des anti-HBs).

Références

1. Déclaration sur le vaccin contre l'hépatite B. *Can Dis Wkly Rep* 1982; 8 : 221-224
2. Wainwright RB, McMahon BJ, Bulkow LR et al : Duration of immunogenicity and efficacy of hepatitis B vaccine in a Yupik

Extrait d'un article précédemment paru dans le Relevé des maladies transmissibles au Canada (une publication du Bureau de l'épidémiologie des maladies transmissibles, Laboratoire de lutte contre la maladie [LLCM], ministère de la Santé nationale et du Bien-être social, Ottawa [Ont.]) par le Comité consultatif national de l'immunisation : Dr^s Susan E. Tamblyn (présidente), médecin hygiéniste, Bureau régional de santé du comté de Perth, Stratford (Ont.); Wark Boucher, directeur suppléant, Bureau des produits biologiques, Direction des médicaments, ministère de la Santé nationale et du Bien-être social, Ottawa (Ont.); Jacqueline A.K. Carlson, gestionnaire médicale, Services de lutte contre la maladie et d'épidémiologie, ministère de la Santé de l'Ontario, Toronto (Ont.); John Conly, directeur, Division des maladies infectieuses, Hôpital University, Saskatoon (Sask.); Pierre Déry, chef du Service des maladies infectieuses, Département de pédiatrie, Centre hospitalier de l'Université Laval, Sainte-Foy (Qué.); Ronald Gold, chef, Division des maladies infectieuses, Hospital for Sick Children, Toronto (Ont.); Scott A. Halperin, professeur adjoint de pédiatrie et de microbiologie, Université Dalhousie, Halifax (N.-É.); Gregory Hammond, directeur, Cadham Provincial Laboratory, Winnipeg (Man.); Barbara J. Law, Département de microbiologie médicale, Université de Manitoba, Winnipeg (Man.); Yves Robert, Département de santé communautaire Saint-Luc, Montréal (Qué.); John Spika, directeur, Bureau de l'épidémiologie des maladies transmissibles, LLCM, ministère de la Santé nationale et du Bien-être social, Ottawa (Ont.); David Lorne Tyrrell, président, Département de microbiologie médicale et des maladies infectieuses, Université de l'Alberta, Edmonton (Alb.); et John Waters, directeur, lutte contre les maladies transmissibles et épidémiologie, Alberta Community and Occupational Health, Edmonton (Alb.) (1992; 18 : 121-122). La publication dans le JAMC est autorisée par le comité et le bureau.

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- Eskimo population. *JAMA* 1989; 261 : 2362-2366
3. Hadler SC, Francis DP, Maynard JE et al : Long-term immunogenicity and efficacy of hepatitis B vaccine in homosexual men. *N Engl J Med* 1986; 315 : 209-214
 4. Comité consultatif national de l'immunisation : *Guide canadien d'immunisation* (cat n° H49-8/1989E), 3^e éd, Dépt de la Santé nationale et du Bien-être social, Ottawa, 1989 : 138
 5. Wainwright RB, McMahon BJ, Bulkow LR et al : Protection provided by hepatitis B vaccine in a Yupik Eskimo population — seven-year results. *Arch Intern Med* 1991; 151 : 1634-1636
 6. Yoshida K, Fujiyama S, Sato T : Persistence of anti-HBs and protective efficacy after administration of hepatitis B vaccine. *J Gastroenterol Hepatol* 1990; 5 : 126-129
 7. Jilg W, Schmidt M, Deinhardt F : Persistence of specific antibodies after hepatitis B vaccination. *J Hepatol* 1986; 6 : 201-207
 8. Van Hattam J, Maikoe T, Poel J et al : In vitro anti-Hbs production by individual B cells of responders to hepatitis B vaccine who subsequently lost antibody. Dans Hollinger FB, Lemon SM, Margolis HS (réds) : *Viral Hepatitis and Liver Disease*, Williams & Wilkins, Baltimore, 1991 : 774-776
 9. Hadler SC, Margolis HS : Hepatitis B immunization. Dans Remington JS, Swartz MN (réds) : *Current Clinical Topics in Infectious Diseases*, Blackwell Sci, Cambridge, Mass, 1992 : 282-308

Conferences

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June 15-18, 1993: International Hospital Conference and Exposition — Interhospital '93

Hannover Fairgrounds, Hannover, Germany
Co-Mar Management Services, Inc., 339-366 Adelaide St. E, Toronto, ON M5A 3X9; (416) 364-5352, fax (416) 364-6557

June 16-20, 1993: 2th International Symposium of Facial Plastic and Reconstructive Surgery (sponsored by the American Academy of Facial Plastic and Reconstructive Surgery)

San Francisco
Cindy Butler, symposium coordinator; (202) 265-4704, fax (202) 265-4714

Aug. 22-27, 1993: 7th World Congress on Pain
Paris

International Association for the Study of Pain, 306-909 NE 43rd St., Seattle, WA 98105; (206) 547-6409, fax (206) 547-1703

Aug. 23-27, 1993: 3rd International Congress on Amino Acids and Analogues
Hotel Capsis Beach and Bungalows, Aghia Pelaghia, Crete
Dr. G. Lubec, Department of Paediatrics, University of Vienna, Währinger Gürtel 18, A 1090 Vienna, Austria; fax 011-43-1-40400-3238

Aug. 29-Sept. 4, 1993: 13th International Congress of EEG and Clinical Neurophysiology (sponsored by the International Federation of Clinical Neurophysiology)

Vancouver
Secretariat, 645-375 Water St., Vancouver, BC V6B 5C6; (604) 681-5226, fax (604) 681-2503

Sept. 4-10, 1993: 15th World Congress of Neurology (sponsored by the World Federation of Neurology and the Canadian Neurological Society)

Vancouver
Secretariat, 645-375 Water St., Vancouver, BC V6B 5C6; (604) 681-5226, fax (604) 681-2503

Sept. 9-11, 1993: 2nd International Congress on Peer Review in Biomedical Publication (sponsored by the American Medical Association)

Fairmont Hotel, Chicago
Abstract deadline is Mar. 15, 1993.

Annette Flanagan, North American coordinator, Peer Review Congress, *JAMA*, 515 N State St., Chicago, IL 60610, (312) 464-2432, fax (312) 464-5824; or Jane Smith, European coordinator, Peer Review Congress, *BMJ*, BMA House, Tavistock Square, London WC1H 9JR, England, telephone 011-44-1-71-387-4499, fax 011-44-1-71-383-6418

Oct. 7-10, 1993: 3rd Congress of the Asian Pacific Society of Respiriology (organized by the Singapore Thoracic Society)

Mandarin Hotel, Singapore
Secretariat, 3rd Congress of the Asian Pacific Society of Respiriology, 336 Smith St. 06-302, New Bridge Centre, Singapore 0105; telephone 011-65-227-9811, fax 011-65-227-0257

Oct. 27-29, 1993: 1st North American Regional Conference of Rehabilitation International — Partners for Independence: Models that Work (cohosted by the Canadian Rehabilitation Council for the Disabled and the United States Council for International Rehabilitation)

Swissotel, Buckhead, Atlanta
Abstract deadline is Jan. 1, 1993.

Program coordinator, North American Congress of Rehabilitation International, 801-45 Sheppard Ave. E, Toronto, ON M2N 5W9; (416) 250-7490, fax (416) 229-1371

Sept. 18-23, 1994: XIIth International Congress of Neuropathology (in conjunction with the annual meetings of the Canadian Association of Neuropathologists and the American Association of Neuropathologists)

Sheraton Centre of Toronto
Dr. J.J. Gilbert, Department of Pathology, Victoria Hospital Corporation, PO Box 5375, London, ON N6A 4G5; (519) 667-6649, fax (519) 667-6749