

## WHO Position Paper on Hepatitis B vaccines

### Some selected references

(chronological order under each subheading)

#### Agent and disease

**EASL Clinical Practice Guidelines:** Management of chronic hepatitis B. *Journal of Hepatology*, 2009, 50:227-242.

**Lok AS and McMahon BJ,** AASLD Practice Guidelines: Chronic Hepatitis B: Update 2009. *Hepatology*, 2009, 50:1-36.

**Amirzargar AA et al.** HLA-DRB1, DQA1 and DQB1 alleles and haplotypes frequencies in Iranian healthy adult responders and non-responders to recombinant hepatitis B vaccine. *Iranian Journal of Immunology*, 2008, 5:92-99.

**La Torre G, Nicolotti N, de Waure C, Chiaradia G, Specchia ML, Mannocci A, Ricciardi W.** An assessment of the effect of hepatitis B vaccine in decreasing the amount of hepatitis B disease in Italy. *Virology*. 2008 Jul 24;5(1):84.

**Nagao Y, Matsuoka H, Kawaguchi T, Ide T, Sata M.** HBV and HCV infection in Japanese dental care workers. *Int J Mol Med*. 2008 Jun;21(6):791-9

**Xu YY, Yu JY, Zhong YW, Song HB, Liu HH, Jia LL, Li SL, Xu JQ, Li Q.** Association between the frequency of class II HLA antigens and the susceptibility to intrauterine infection of hepatitis B virus. *Int J Biol Sci*. 2008 Apr 25;4(2):111-5

**Velu V, Saravanan S, Nandakumar S, Dhevahi E, Shankar EM, Murugavel KG, Kumarasamy T, Thyagarajan SP.** Transmission of "a" determinant variants of hepatitis B virus in immunized babies born to HBsAg carrier mothers. *Jpn J Infect Dis*. 2008 Jan;61(1):73-6.

**Liaw YF et al.** APASL Guidelines for HBV Management. *Hepatology International*, 2008,2:263-283.

**Velu V, Saravanan S, Nandakumar S, Dhevahi E, Shankar EM, Murugavel KG, Kumarasamy T, Thyagarajan SP.** Transmission of "a" determinant variants of hepatitis B virus in immunized babies born to HBsAg carrier mothers. *Jpn J Infect Dis*. 2008 Jan;61(1):73-6.

**Sheldon J, Ramos B, Garcia-Samaniego J, Rios P, Bartholomeusz A, Romero M, Locarnini S, Zoulim F, Soriano V.** Selection of hepatitis B virus (HBV) vaccine escape mutants in HBV-infected and HBV/HIV-coinfected patients failing antiretroviral drugs with anti-HBV activity. *J Acquir Immune Defic Syndr*. 2007 Nov 1;46(3):279-82.

**AD Sayiner AA, Agca H, Sengonul A, Celik A, Akarsu M.** A new hepatitis B virus vaccine escape mutation in a renal transplant recipient. *J Clin Virol.* 2007 Feb;38(2):157-60.

**Keeffe EB.** Hepatitis a and B superimposed on chronic liver disease: vaccine-preventable diseases. *Trans Am Clin Climatol Assoc.* 2006;117:227-38.

**Bauer T, Jilg W.** Hepatitis B surface antigen-specific T and B cell memory in individuals who had lost protective antibodies after hepatitis B vaccination. *Vaccine.* 2006 Jan 30;24(5):572-7.

**McMahon BJ.** Epidemiology and natural history of hepatitis B. *Semin Liver Dis.* 2005;25 Suppl 1:3-8.

**Boxall EH, Sira J, Standish RA, Davies P, Sleight E, Dhillon AP, Scheuer PJ, Kelly DA.** Natural history of hepatitis B in perinatally infected carriers. *Arch Dis Child Fetal Neonatal Ed.* 2004 Sep;89(5):F456-60.

**Locarnini S, McMillan J, Bartholomeusz A.** The hepatitis B virus and common mutants. *Semin Liver Dis.* 2003 Feb;23(1):5-20.

**Hilleman MR.** Critical overview and outlook: pathogenesis, prevention, and treatment of hepatitis and hepatocarcinoma caused by hepatitis B virus. *Vaccine.* 2003 Dec 1;21(32):4626-49.

**Hyams KC.** Risks of chronicity following acute hepatitis B virus infection: a review. *Clin Infect Dis.* 1995 Apr;20(4):992-1000.

**McMahon BJ, Alward WL, Hall DB, Heyward WL, Bender TR, Francis DP, Maynard JE.** Acute hepatitis B virus infection: relation of age to the clinical expression of disease and subsequent development of the carrier state. : *J Infect Dis.* 1985 Apr;151(4):599-603.

**Beasley RP, Trepo C, Stevens CE, Szmuness W.** The e antigen and vertical transmission of hepatitis B surface antigen. *Am J Epidemiol.* 1977 Feb;105(2):94-8.

## Epidemiology

**(WHO 2009).** Global and regional immunization profile. Geneva, World Health Organization, Vaccine-preventable diseases monitoring system, 2009 [http://www.who.int/immunization\\_monitoring/en/globalsummary/GS\\_GLOProfile.pdf](http://www.who.int/immunization_monitoring/en/globalsummary/GS_GLOProfile.pdf), accessed 4 September 2009).

**(WHO 2009).** Global Plan of Action on Workers' Health 2008–2017, Objective 1.10 (WHA60/A60\_R26): [http://apps.who.int/gb/ebwha/pdf\\_files/WHA60/A60\\_R26-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA60/A60_R26-en.pdf).

**WHO. International travel and health.** 2009, p 106. ISBN-13 9789241580427 <http://www.who.int/topics/travel/en/>

**Weinbaum CM, Lyerla R, Mackellar DA, Valleroy LA, Secura GM, Behel SK, Bingham T, Celentano DD, Koblin BA, Lalota M, Shehan DA, Thiede H, Torian LV;** Young Men's Survey Study Group. The Young Men's Survey phase II: hepatitis B immunization and infection among young men who have sex with men. *Am J Public Health*. 2008 May;98(5):839-45. Epub 2008 Apr 1.

**Koya DL, Hill EG, Darden PM.** The effect of vaccinated children on increased hepatitis B immunization among high-risk adults. *Am J Public Health*. 2008 May;98(5):832-8.

**Dumolard L et al.** Implementation of Newborn Hepatitis B Vaccination - Worldwide, 2006. *Morbidity and Mortality Weekly Report*, 2008, 57:1249-1252.

**Sutton AJ, Gay NJ, Edmunds WJ, Gill ON.** Modelling alternative strategies for delivering hepatitis B vaccine in prisons: the impact on the vaccination coverage of the injecting drug user population. *Epidemiol Infect*. 2008 Mar 17:1-6.

**Steedman NM, McMillan A.** Hepatitis B testing and vaccination in patients recently diagnosed with HIV infection. *Int J STD AIDS*. 2008 Feb;19(2):83-4..

**Murhekar MV, Murhekar KM, Sehgal SC.** Epidemiology of hepatitis B virus infection among the tribes of Andaman and Nicobar Islands, India. *Trans R Soc Trop Med Hyg*. 2008 Aug;102(8):729-34.

**Pitigoi D, Rafila A, Pistol A, Arama V, Molagic V, Streinu-Cercel A.** Trends in hepatitis B incidence in Romania, 1989-2005. *Euro Surveill*. 2008 Jan 10;13(2). pii: 8012.

**Chongsrisawat V, Yoocharoen P, Theamboonlers A, Tharmaphornpilas P, Warinsathien P, Sinlaparatsamee S, Paupunwatana S, Chaiear K, Khwanjaipanich S, Poovorawan Y.** Hepatitis B seroprevalence in Thailand: 12 years after hepatitis B vaccine integration into the national expanded programme on immunization. *Trop Med Int Health*. 2006 Oct;11(10):1496-502.

**Kao JH, Chen DS.** Changing disease burden of hepatocellular carcinoma in the Far East and Southeast Asia. *Liver Int*. 2005 Aug;25(4):696-703.

**Goldstein ST et al.** A mathematical model to estimate global hepatitis B disease burden and vaccination impact. *International Journal of Epidemiology*, 2005, 34:1329–1339.

**Goldstein ST, Alter MJ, Williams IT, Moyer LA, Judson FN, Mottram K, Flenor M, Ryder PL, Margolis HS.** Incidence and risk factors for acute hepatitis B in the United States, 1982-1998: implications for vaccination programs. *J Infect Dis*. 2002 Mar 15;185(6):713-9.

**Lamden KH, Kennedy N, Beeching NJ, Lowe D, Morrison CL, Mallinson H, Mutton KJ, Syed Q.** Hepatitis B and hepatitis C virus infections: risk factors among drug users in Northwest England. *J Infect*. 1998 Nov; 37(3):260-9.

**Kant L, Hall AJ.** Epidemiology of childhood hepatitis B in India: vaccination related issues. *Indian J Pediatr*. 1995 Nov-Dec;62(6):635-53.

**Margolis HS, Alter MJ, Hadler SC.** Hepatitis B: evolving epidemiology and implications for control. *Semin Liver Dis*. 1991 May;11(2):84-92.

**Beasley RP, Hwang LY.** Overview of the epidemiology of hepatocellular carcinoma. In: Hollinger FB, Lemon SM, Margolis HS, eds. *Viral hepatitis and liver disease: proceedings of the 1990 International Symposium on Viral Hepatitis and Liver Disease: contemporary issues and future prospects.* Baltimore, Williams & Wilkins, 1991: 532–535.

## Vaccine, immunogenicity, efficacy and effectiveness

**Nemes E, Lefler E, Szegedi L, Kapitány A, Kovács JB, Balogh M, Szabados K, Tumpek J, Sipka S, Korponay-Szabó IR.** Gluten intake interferes with the humoral immune response to recombinant hepatitis B vaccine in patients with celiac disease. *Pediatrics.* 2008 Jun;121(6):e1570-6.

**Amirzargar AA, Mohseni N, Shokrgozar MA, Arjang Z, Ahmadi N, Yousefi Behzadi M, Amanzadeh A, Shokri F.** HLA-DRB1, DQA1 and DQB1 Alleles and Haplotypes Frequencies in Iranian Healthy Adult Responders and Non-Responders to Recombinant Hepatitis B Vaccine. *Iran J Immunol.* 2008 Jun;5(2):92-9.

**Weihrauch MR, von Bergwelt-Baildon M, Kandic M, Weskott M, Klamp W, Rosler J, Schultze JL.** T cell responses to hepatitis B surface antigen are detectable in non-vaccinated individuals. *World J Gastroenterol.* 2008 Apr 28;14(16):2529-33.

**de la Hoz F, Perez L, de Neira M, Hall AJ.** Eight years of hepatitis B vaccination in Colombia with a recombinant vaccine: factors influencing hepatitis B virus infection and effectiveness. *Int J Infect Dis.* 2008 Mar;12(2):183-9.

**Fernandes SJ, Shlessarenko N, Souto FJ.** Effects of vertical HIV infection on the persistence of anti-HBs after a schedule of three doses of recombinant hepatitis B vaccine. *Vaccine.* 2008 Feb 20;26(8):1032-7.

**Jafarzadeh A, Zarei S, Shokri F.** Low dose revaccination induces robust protective anti-HBs antibody response in the majority of healthy non-responder neonates. *Vaccine.* 2008 Jan 10;26(2):269-76.

**Zuckerman JN.** Protective efficacy, immunotherapeutic potential, and safety of hepatitis B vaccines. *J Med Virol.* 2006 Feb;78(2):169-77.

**Lee C et al.** Hepatitis B immunisation for newborn infants of hepatitis B surface antigen-positive mothers. *Cochrane Database of Systematic Reviews,* 2006,(2):CD004790.

**Chen W, Gluud C.** Vaccines for preventing hepatitis B in health-care workers. *Cochrane Database Syst Rev.* 2005 Oct 19;(4):CD000100.

**Fisman DN, Agrawal D, Leder K.** The effect of age on immunologic response to recombinant hepatitis B vaccine: a meta-analysis. *Clin Infect Dis.* 2002 Dec 1;35(11):1368-75.

**Lolekha S, Warachit B, Hirunyachote A, Bowonkiratikachorn P, West DJ, Poerschke G.** Protective efficacy of hepatitis B vaccine without HBIG in infants of HBeAg-positive carrier mothers in Thailand. *Vaccine.* 2002 Nov 1;20(31-32):3739-43.

**Whittle H, Jaffar S, Wansbrough M, Mendy M, Dumpis U, Collinson A, Hall A.** Observational study of vaccine efficacy 14 years after trial of hepatitis B vaccination in Gambian children. *BMJ*. 2002 Sep 14;325(7364): 569.

**Hieu NT, Kim KH, Janowicz Z, Timmermans I.** Comparative efficacy, safety and immunogenicity of Hepavax-Gene and Engerix-B, recombinant hepatitis B vaccines, in infants born to HBsAg and HBeAg positive mothers in Vietnam: an assessment at 2 years. *Vaccine*. 2002 Mar 15;20(13-14):1803-8.

**Jack AD, Hall AJ, Maine N, Mendy M, Whittle HC.** What level of hepatitis B antibody is protective? *J Infect Dis*. 1999 Feb;179(2):489-92.

**Viviani S et al.** Hepatitis B vaccination in infancy in The Gambia: protection against carriage at 9 years of age. *Vaccine*, 1999,17:2946-2950.

**Averhoff F et al.** Immunogenicity of hepatitis B Vaccines. Implications for persons at occupational risk of hepatitis B virus infection. *American Journal of Preventive Medicine*, 1998,15:1-8.

**Chang MH, Chen CJ, Lai MS, Hsu HM, Wu TC, Kong MS, Liang DC, Shau WY, Chen DS.** Universal hepatitis B vaccination in Taiwan and the incidence of hepatocellular carcinoma in children. Taiwan Childhood Hepatoma Study Group. *N Engl J Med*. 1997 Jun 26;336(26):1855-9.

**Lee CL, Ko YC.** Hepatitis B vaccination and hepatocellular carcinoma in Taiwan. *Pediatrics*. 1997 Mar;99(3):351-3.

**Chen HL, Chang MH, Ni YH, Hsu HY, Lee PI, Lee CY, Chen DS.** Seroepidemiology of hepatitis B virus infection in children: Ten years of mass vaccination in Taiwan. *JAMA*. 1996 Sep 18;276(11):906-8.

**Khukhlovich PA, Shakhgil'dian IV, Narkevich MI, Anan'ev VA, Kuzin SN, Sergeeva NA, et al.** [The vaccinal prophylaxis of hepatitis B among children born to mothers with persistent HBs-antigenemia]. *Zhurnal Mikrobiologii, Epidemiologii, Immunobiologii* 1996; 2:55-9.

**Kang P, Shen XM, Yu HM.** [Study on the efficacy of genetically engineered vaccines against hepatitis B for interruption of perinatal transmission] *Zhonghua Hu Li Za Zhi*. 1995 Jul 5;30(7):390-2. [Article in Chinese]

**Lee PI, Lee CY, Huang LM, Chang MH.** Long-term efficacy of recombinant hepatitis B vaccine and risk of natural infection in infants born to mothers with hepatitis B e antigen. *J Pediatr*. 1995 May;126(5 Pt 1):716-21.

**Xu ZY, Duan SC, Margolis HS, Purcell RH, Ou-Yang PY, Coleman PJ, et al.** Long-term efficacy of active postexposure immunization of infants for prevention of hepatitis B virus infection. United States-People's Republic of China Study Group on Hepatitis B. *The Journal of Infectious Diseases* 1995;171(1):54-60.

**Tan KL et al.** Immunogenicity of recombinant yeast-derived hepatitis B vaccine in nonresponders to perinatal immunization. *Journal of the American Medical Association*, 1994,271:859-861.

**Assateerawatt A, Tanphaichitr VS, Suvatte V, Yodthong S.** Immunogenicity and efficacy of a recombinant DNA hepatitis B vaccine, GenHevac B Pasteur in high risk neonates, school children and healthy adults. *Asian Pac J Allergy Immunol*. 1993 Jun;11(1):85-91.

**Grosheide PM, del Canho R, Heijtkink RA, Nuijten AS, Zwijnenberg J, Bänffer JR, Wladimiroff YW, Botman MJ, Mazel JA, de Gast GC, et al.** Passive-active immunization in infants of hepatitis Be antigen-positive mothers. Comparison of the efficacy of early and delayed active immunization. *Am J Dis Child*. 1993 Dec;147(12):1316-20.

**Halliday ML, Kang LY, Rankin JG, Coates RA, Corey PN, Hu ZH, Zhou TK, Yuan GJ, Yao FL.** An efficacy trial of a mammalian cell-derived recombinant DNA hepatitis B vaccine in infants born to mothers positive for HBsAg, in Shanghai, China. *Int J Epidemiol*. 1992 Jun;21(3):564-73.

**Sehgal A, Gupta I, Sehgal R, Ganguly NK.** Hepatitis B vaccine alone or in combination with anti-HBs immunoglobulin in the perinatal prophylaxis of babies born to HBsAg carrier mothers. *Acta Virol*. 1992 Aug;36(4):359-66.

**Sehgal A, Sehgal R, Gupta I, Bhakoo ON, Ganguly NK.** Use of hepatitis B vaccine alone or in combination with hepatitis B immunoglobulin for immunoprophylaxis of perinatal hepatitis B infection. *J Trop Pediatr*. 1992 Oct;38(5):247-51.

**Poovorawan Y, Sanpavat S, Pongpunglert W, Chumdermpadetsuk S, Sentrakul P, Vandepapelière P, Safary A.** Long term efficacy of hepatitis B vaccine in infants born to hepatitis B e antigen-positive mothers. Efficacy/effectiveness trials. *Pediatr Infect Dis J*. 1992 Oct;11(10):816-21.

**Theppisai U, Thanuntaseth C, Chiewsilp P, Siripoonya P.** Prevention of hepatitis B infection in infants born to hepatitis B carrier mothers: low dosage vaccination. *Int J Gynaecol Obstet*. 1990 Aug;32(4):353-7.

**Ip HM, Wong VC, Lelie PN, Reesink HW, Schaasberg W, Yeung CY, Ma HK.** Hepatitis B infection in infants after neonatal immunization. *Acta Paediatr Jpn*. 1989 Dec;31(6):654-8.

**Ip HM, Lelie PN, Wong VC, Kuhns MC, Reesink HW.** Prevention of hepatitis B virus carrier state in infants according to maternal serum levels of HBV DNA. *Lancet*. 1989 Feb 25;1(8635):406-10.

**Hsu HM, Chen DS, Chuang CH, Lu JC, Jwo DM, Lee CC, Lu HC, Cheng SH, Wang YF, Wang CY, et al.** Efficacy of a mass hepatitis B vaccination program in Taiwan. Studies on 3464 infants of hepatitis B surface antigen-carrier mothers. *JAMA*. 1988 Oct 21;260(15):2231-5.

**Lo KJ, Lee SD, Tsai YT, Wu TC, Chan CY, Chen GH, Yeh CL.** Long-term immunogenicity and efficacy of hepatitis B vaccine in infants born to HBeAg-positive HBsAg-carrier mothers. *Hepatology*. 1988 Nov-Dec;8(6):1647-50.

**Farmer K, Gunn T, Woodfield DG.** A combination of hepatitis B vaccine and immunoglobulin does not protect all infants born to hepatitis B e antigen positive mothers. *N Z Med J*. 1987 Jul 8;100(827):412-4.

**Liu LH.** [Comparative study of the efficacy of hepatitis B virus (HBV) vaccine combined with hepatitis B immunoglobulin(HBIG) versus vaccine alone in the interruption of the perinatal transmission of HBV carrier state]. *Zhonghua Liu Xing Bing Xue Za Zhi* 1987;8(6):325-8.

**Chen DS, Hsu NH, Sung JL, Hsu TC, Hsu ST, Kuo YT, Lo KJ, Shih YT.** A mass vaccination program in Taiwan against hepatitis B virus infection in infants of hepatitis B surface antigen-carrier mothers. *JAMA*. 1987 May 15;257(19):2597-603.

**Oon CJ, Tan KL, Goh KT, Wong-Yong L, Viegas O, McCarthy T, Chan SH, Lee HP.** Evaluation of a low dose of hepatitis B vaccine given within a childhood immunisation programme in Singapore. *J Infect*. 1986 Nov;13(3):255-67.

**Hadler SC, Francis DP, Maynard JE, Thompson SE, Judson FN, Echenberg DF, Ostrow DG, O'Malley PM, Penley KA, Altman NL, et al.** Long-term immunogenicity and efficacy of hepatitis B vaccine in homosexual men. *N Engl J Med*. 1986 Jul 24;315(4):209-14.

**Emini EA, Ellis RW, Miller WJ, McAleer WJ, Scolnick EM, Gerety RJ.** Production and immunological analysis of recombinant hepatitis B vaccine. *J Infect*. 1986 Jul;13 Suppl A:3-9.

**Yeoh EK, Chang WK, Ip P, Chan KH, Chan E, Fung C.** Efficacy and safety of recombinant hepatitis B vaccine in infants born to HBsAg-positive mothers. *J Infect*. 1986 Jul;13 Suppl A:15-8.

**Xu ZY, Liu CB, Francis DP, Purcell RH, Gun ZL, Duan SC, Chen RJ, Margolis HS, Huang CH, Maynard JE.** Prevention of perinatal acquisition of hepatitis B virus carriage using vaccine: preliminary report of a randomized, double-blind placebo-controlled and comparative trial. *Pediatrics*. 1985 Nov;76(5):713-8

**Xu ZY, Francis DP, Liu CB, Purcell RH, Duan SC, Chen RJ, et al.** Prevention of hepatitis B virus carriage of infants using HBV vaccine in Shanghai. Preliminary report of a randomized double-blind placebo-controlled trial. *Chinese Medical Journal* 1985;98(9):623-6.

**Lo KJ, Tsai YT, Lee SD, Yeh CL, Wang JY, Chiang BN, Wu TC, Yeh PS, Goudeau A, Coursaget P, et al.** Combined passive and active immunization for interruption of perinatal transmission of hepatitis B virus in Taiwan. *Hepatogastroenterology*. 1985 Apr;32(2):65-8.

**Wong VC, Ip HM, Reesink HW, Lelie PN, Reerink-Brongers EE, Yeung CY, Ma HK.** Prevention of the HBsAg carrier state in newborn infants of mothers who are chronic carriers of HBsAg and HBeAg by administration of hepatitis-B vaccine and hepatitis-B

immunoglobulin. Double-blind randomised placebo-controlled study. *Lancet*. 1984 Apr 28;1(8383):921-6.

**Beasley RP, Hwang LY, Lee GC, Lan CC, Roan CH, Huang FY, Chen CL.** Prevention of perinatally transmitted hepatitis B virus infections with hepatitis B virus infections with hepatitis B immune globulin and hepatitis B vaccine. *Lancet*. 1983 Nov 12;2(8359):1099-102.

**Goudeau A, Lo KJ, Coursaget P, Tong MJ, Yeh CL, Tsai YT, Lee JK, Wu TC, Yeh SH, Lee SD.** Prevention of hepatitis B virus infection in children born to HBsAg positive/HBeAg positive mothers. Preliminary results of active and passive-active immunization. *Dev Biol Stand*. 1983;54:399-404.

## Schedule and programmatic issues

**Cardell K, Akerlind B, Sällberg M, Frydén A.** Excellent response rate to a double dose of the combined hepatitis a and B vaccine in previous nonresponders to hepatitis B vaccine. *J Infect Dis*. 2008 Aug 1;198(3):299-304.

**Ekra D, Herbinger KH, Konate S, Leblond A, Fretz C, Cilote V, Douai C, Da Silva A, Gessner BD, Chauvin P.** A non-randomized vaccine effectiveness trial of accelerated infant hepatitis B immunization schedules with a first dose at birth or age 6 weeks in Côte d'Ivoire. *Vaccine*. 2008 May 23;26(22):2753-61.

**Prymula R, Plisek S.** Clinical experience with DTPw-HBV and DTPw-HBV/Hib combination vaccines. *Expert Opin Biol Ther*. 2008 Apr;8(4):503-13.

**Halasa NB, O'Shea A, Shi JR, Lafleur BJ, Edwards KM.** Poor Immune Responses to a Birth Dose of Diphtheria, Tetanus, and Acellular Pertussis Vaccine. *J Pediatr*. 2008 Apr 25.

**Vandermeulen C, Roelants M, Theeten H, Depoorter AM, Van Damme P, Hoppenbrouwers K.** Vaccination coverage in 14-year-old adolescents: documentation, timeliness, and sociodemographic determinants. *Pediatrics*. 2008 Mar;121(3):e428-34

**Sangfelt P, Uhnöo I, Reichard O, Weiland O.** A low-dose intradermal hepatitis B vaccine programme in health-care workers and students is highly effective and cost saving: a retrospective follow-up survey in the clinical setting. *Scand J Gastroenterol*. 2008;43(4):465-72

**Murakami H, Van Cuong N, Huynh L, Hipgrave DB.** Implementation of and costs associated with providing a birth-dose of hepatitis B vaccine in Viet Nam. *Vaccine*. 2008 Mar 10;26(11):1411-9.

**Dumolard L** et al. Implementation of Newborn Hepatitis B Vaccination - Worldwide, 2006. *Morbidity and Mortality Weekly Report*, 2008, 57:1249-1252.

**Wang L, Li J, Chen H, Li F, Armstrong GL, Nelson C, Ze W, Shapiro CN.** Hepatitis B vaccination of newborn infants in rural China: evaluation of a village-based, out-of-cold-chain delivery strategy. *Bull World Health Organ*. 2007 Sep;85(9):688-94.



**Rhiner J, Pfister R, Nassehi Tschopp Y, Bucher HU.** Selective immunisation strategy to protect newborns at risk for transmission of hepatitis B: retrospective audit of vaccine uptake. *Swiss Med Wkly.* 2007 Sep 22;137(37-38):531-5.

**Connor BA, Blatter MM, Beran J, Zou B, Trofa AF.** Rapid and sustained immune response against hepatitis A and B achieved with combined vaccine using an accelerated administration schedule. *J Travel Med.* 2007 Jan-Feb;14(1):9-15.

**Kabir A, Alavian SM, Ahanchi N, Malekzadeh R.** Combined passive and active immunoprophylaxis for preventing perinatal transmission of the hepatitis B virus in infants born to HBsAg positive mothers in comparison with vaccine alone. *Hepatol Res.* 2006 Dec;36(4):265-71.

**Van der Wielen M, Van Damme P, Chlibek R, Smetana J, von Sonnenburg F.** Hepatitis A/B vaccination of adults over 40 years old: comparison of three vaccine regimens and effect of influencing factors. *Vaccine.* 2006 Jun 29; 24(26): 5509-15.

**Jain AK, Mittal SK, Ramji S, Chakravarti A.** Hepatitis B vaccine in the EPI schedule. *Indian J Pediatr.* 2005 Aug;72(8):661-4.

**Mast EE, Margolis HS, Fiore AE, Brink EW, Goldstein ST, Wang SA, Moyer LA, Bell BP, Alter MJ; Advisory Committee on Immunization Practices (ACIP).** A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United States: recommendations of the Advisory Committee on Immunization Practices (ACIP) part 1: immunization of infants, children, and adolescents. *MMWR Recomm Rep.* 2005 Dec 23;54(RR-16):1-31. (

**Maayan-Metzger A, Kedem-Friedrich P, Kuint J.** To vaccinate or not to vaccinate--that is the question: why are some mothers opposed to giving their infants hepatitis B vaccine? *Vaccine.* 2005 Mar 14;23(16):1941-8.

**John TJ, Cooksley G; Steering Committee for the Prevention and Control of Infectious Diseases in Asia.** Hepatitis B vaccine boosters: is there a clinical need in high endemicity populations? *J Gastroenterol Hepatol.* 2005 Jan;20(1):5-10.

**Wallace LA, Bramley JC, Ahmed S, Duff R, Hutchinson SJ, Carman WF, Kitchin NR, Goldberg DJ.** Determinants of universal adolescent hepatitis B vaccine uptake. *Arch Dis Child.* 2004 Nov;89(11):1041-2.

**Gomber S, Sharma R, Ramachandran VG.** Immunogenicity of low dose intradermal hepatitis B vaccine and its comparison with standard dose intramuscular vaccination. *Indian Pediatr.* 2004 Sep;41(9):922-6.

**Gall SA.** Maternal immunization. *Obstet Gynecol Clin North Am.* 2003 Dec;30(4):623-36.

**Zuckerman J.** The place of accelerated schedules for hepatitis A and B vaccinations. *Drugs.* 2003;63(17):1779-84.

**Saari TN;** American Academy of Pediatrics Committee on Infectious Diseases. Immunization of preterm and low birth weight infants. American Academy of Pediatrics Committee on Infectious Diseases. *Pediatrics.* 2003 Jul;112(1 Pt 1):193-8.

**Fisman DN, Agrawal D, Leder K.** The effect of age on immunologic response to recombinant hepatitis B vaccine: a meta-analysis. *Clin Infect Dis.* 2002 Dec 1;35(11):1368-75.

**Dangio CT, Hall CB.** Timing of vaccinations in premature infants. *BioDrugs.* 2000 May;13(5):335-46.

**Murphy E.** Hepatitis B, vaccination and healthcare workers. *Occup Med (Lond).* 2000 Aug;50(6):383-6.

**Otto BF, Suarnawa IM, Stewart T, Nelson C, Ruff TA, Widjaya A, Maynard JE.** At-birth immunisation against hepatitis B using a novel pre-filled immunisation device stored outside the cold chain. *Vaccine.* 1999 Oct 14;18(5-6):498-502.

**Kuru U, Turan O, Kuru N, Sağlam Z, Alver A.** Results of vaccinated infants born to HBsAg-positive mothers with different hepatitis B vaccines and doses. *Turk J Pediatr.* 1995 Apr-Jun;37(2):93-102.

**Mangione R et al.** Delayed third hepatitis B vaccine dose and immune response. *Lancet,* 1995, 345: 1111–1112.

**Lee CY, Huang LM, Chang MH, Hsu CY, Wu SJ, Sung JL, Safary A.** The protective efficacy of recombinant hepatitis B vaccine in newborn infants of hepatitis B e antigen-positive-hepatitis B surface antigen carrier mothers. *Pediatr Infect Dis J.* 1991 Apr;10(4):299-303.

**Pongpipat D, Suvatte V, Assateerawatts A.** Hepatitis B immunization in high risk neonates born from HBsAg positive mothers: comparison between plasma derived and recombinant DNA vaccine. *Asian Pac J Allergy Immunol.* 1989 Jun;7(1):37-40.

**Pongpipat D, Suvatte V, Assateerawatts A.** Hepatitis B immunization in high risk neonates born from HBsAg and HBeAg positive mothers: comparison of standard and low dose regimens. *Asian Pac J Allergy Immunol.* 1988 Dec;6(2):107-10.

**Pongpipat D, Suvatte V, Assateerawatts A.** Efficacy of hepatitis-B immunoglobulin and hepatitis-B vaccine in prevention of the HBsAg carrier state in newborn infants of mothers who are chronic carriers of HBsAg and HBeAg. *Asian Pac J Allergy Immunol.* 1986 Jun;4(1):33-6.

**Piazza M, Picciotto L, Villari R, Guadagnino V, Orlando R, Isabella L, Macchia V, Memoli AM, Vegnente A, Borrelli AM, et al.** Hepatitis B immunisation with a reduced number of doses in newborn babies and children. *Lancet.* 1985 Apr 27;1(8435):949-51

## Duration of protection and booster doses

**Kao JT, Wang JH, Hung CH, Yen YH, Hung SF, Hu TH, Lee CM, Lu SN.** Long-term efficacy of plasma-derived and recombinant hepatitis B vaccines in a rural township of Central Taiwan. *Vaccine.* 2009 Mar 13;27(12):1858-1862.

**Bialek SR et al.** Persistence of protection against hepatitis B virus infection among adolescents vaccinated with recombinant hepatitis B vaccine beginning at birth: a 15-year follow-up study. *Pediatric Infectious Diseases Journal*, 2008, 27:881-885.

**Lu CY, Ni YH, Chiang BL, Chen PJ, Chang MH, Chang LY, Su IJ, Kuo HS, Huang LM, Chen DS, Lee CY.** Humoral and cellular immune responses to a hepatitis B vaccine booster 15-18 years after neonatal immunization. *J Infect Dis.* 2008 May 15;197(10):1419-26.

**Ramezani A, Velayati AA, Eslamifar A, Banifazl M, Ahmadi F, Maziar S, Razeghi E, Kalantar E, Amirkhani A, Aghakhani A.** Persistence of hepatitis B vaccine immunity in hemodialysis patients. *Ther Apher Dial.* 2008 Apr;12(2):143-6.

**Poovorawan Y, Hutagalung Y, Chongsrisawat V, Thaemboonlers A, Lefevre I.** Long-term antibody persistence in children primed and boosted with a DTPw-HBV vaccine at 2, 4, 6, 18, months of age. *Vaccine.* 2008 Mar 17;26(12):1535-40.

**Alavian SM, Mansouri S, Abouzari M, Assari S, Bonab MS, Miri SM.** Long-term efficacy of hepatitis B vaccination in healthcare workers of Oil Company Hospital, Tehran, Iran (1989-2005). *Eur J Gastroenterol Hepatol.* 2008 Feb; 20(2):131-4.

**Alfaleh F, Alshehri S, Alansari S, Aljeffri M, Almazrou Y, Shaffi A, Abdo AA.** Long-term protection of hepatitis B vaccine 18 years after vaccination. *J Infect.* 2008 Nov;57(5):404-9.

**Su FH, Chen JD, Cheng SH, Sung KY, Jeng JJ, Chu FY.** Waning-off effect of serum hepatitis B surface antibody amongst Taiwanese university students: 18 years post-implementation of Taiwan's national hepatitis B vaccination programme. *J Viral Hepat.* 2008 Jan;15(1):14-9.

**But DY, Lai CL, Lim WL, Fung J, Wong DK, Yuen MF.** Twenty-two years follow-up of a prospective randomized trial of hepatitis B vaccines without booster dose in children: Final report. *Vaccine.* 2008 Oct 1.

**Mast EE, Ward JW.** Hepatitis B vaccines. In: Plotkin SA, Orenstein WA, Offit PA, eds. *Vaccines*, 5th ed., Saunders Elsevier, 2008: 205-241.

**Lin CC, Chang CK, Huang YL, Tseng HF.** Low seroprevalence of hepatitis B surface antibody among nursing students in Taiwan: an implication for boosting. *Vaccine.* 2007 Dec 12;25(51):8508-11.

**Su FH, Huang HY, Chang HJ, Jeng JJ, Liu YH, Chen CD.** Forecasting the declining rate of chronic hepatitis-B carrier status at a Taiwanese university: twenty years after implementation of an universal HBV vaccination program in Taiwan. *Chang Gung Med J.* 2007 Nov-Dec;30(6):521-8.

**Su FH, Cheng SH, Li CY, Chen JD, Hsiao CY, Chien CC, Yang YC, Hung HH, Chu FY.** Hepatitis B seroprevalence and anamnestic response amongst Taiwanese young adults with full vaccination in infancy, 20 years subsequent to national hepatitis B vaccination. *Vaccine.* 2007 Nov 19;25(47):8085-90.

**Wang LY, Lin HH.** Short-term response to a booster dose of hepatitis B vaccine in anti-HBs negative adolescents who had received primary vaccination 16 years ago. *Vaccine*. 2007 Oct 10;25(41):7160-7.

**Hammit LL, Hennessy TW, Fiore AE, Zanis C, Hummel KB, Dunaway E, Bulkow L, McMahon BJ.** Hepatitis B immunity in children vaccinated with recombinant hepatitis B vaccine beginning at birth: a follow-up study at 15 years. *Vaccine*. 2007 Sep 28;25(39-40):6958-64.

**Van Herck K, Leroux-Roels G, Van Damme P, Srinivasa K, Hoet B.** Ten-year antibody persistence induced by hepatitis A and B vaccine (Twinrix) in adults. *Travel Med Infect Dis*. 2007 May;5(3):171-5.

**Ni YH, Huang LM, Chang MH, Yen CJ, Lu CY, You SL, Kao JH, Lin YC, Chen HL, Hsu HY, Chen DS.** Two decades of universal hepatitis B vaccination in taiwan: impact and implication for future strategies. *Gastroenterology*. 2007 Apr;132(4):1287-93.

**van der Sande MA, Waight PA, Mendy M, Zaman S, Kaye S, Sam O, Kahn A, Jeffries D, Akum AA, Hall AJ, Bah E, McConkey SJ, Hainaut P, Whittle HC.** Long-term protection against HBV chronic carriage of Gambian adolescents vaccinated in infancy and immune response in HBV booster trial in adolescence. *PLoS ONE*. 2007 Aug 15;2(1):e753.

**Ribeiro TM, Azevedo RS.** Seroconversion of hepatitis B vaccine in infants related to the mother's serostatus in a community of São José dos Campos, state of São Paulo, Brazil. *Clinics*. 2006 Oct;61(5):387-94.

**Jafarzadeh A, Montazerifar SJ.** Persistence of anti-HBs antibody and immunological memory in children vaccinated with hepatitis B vaccine at birth. *J Ayub Med Coll Abbottabad*. 2006 Oct-Dec;18(4):4-9.

**van der Sande MA, Waight P, Mendy M, Rayco-Solon P, Hutt P, Fulford T, Doherty C, McConkey SJ, Jeffries D, Hall AJ, Whittle HC.** Long-term protection against carriage of hepatitis B virus after infant vaccination. *J Infect Dis*. 2006 Jun 1;193(11):1528-35.

**McMahon BJ, Bruden DL, Petersen KM, Bulkow LR, Parkinson AJ, Nainan O, Khristova M, Zanis C, Peters H, Margolis HS.** Antibody levels and protection after hepatitis B vaccination: results of a 15-year follow-up. *Ann Intern Med*. 2005 Mar 1;142(5):333-41.

**John TJ, Cooksley G; Steering Committee for the Prevention and Control of Infectious Diseases in Asia.** Hepatitis B vaccine boosters: is there a clinical need in high endemicity populations? *J Gastroenterol Hepatol*. 2005 Jan;20(1):5-10.

**Zanetti AR, Mariano A, Romanò L, D'Amelio R, Chironna M, Coppola RC, Cuccia M, Mangione R, Marrone F, Negrone FS, Parlato A, Zamparo E, Zotti C, Stroffolini T, Mele A; Study Group.** Long-term immunogenicity of hepatitis B vaccination and policy for booster: an Italian multicentre study. *Lancet*. 2005 Oct 15-21;366(9494):1379-84.

**Fitzsimons D, François G, Hall A, McMahon B, Meheus A, Zanetti A, Duval B, Jilg W, Böcher WO, Lu SN, Akarca U, Lavanchy D, Goldstein S, Banatvala J, Damme**

**PV.** Long-term efficacy of hepatitis B vaccine, booster policy, and impact of hepatitis B virus mutants. *Vaccine*. 2005 Jul 14;23(32):4158-66.

**Lu CY, Chiang BL, Chi WK, Chang MH, Ni YH, Hsu HM, Twu SJ, Su IJ, Huang LM, Lee CY.** Waning immunity to plasma-derived hepatitis B vaccine and the need for boosters 15 years after neonatal vaccination. *Hepatology*. 2004 Dec;40(6):1415-20.

**Floreani A et al.** Long-term persistence of anti-HBs after vaccination against HBV: an 18 year experience in health care workers. *Vaccine*, 2004,22: 607-610.

**Saffar MJ, Rezai MS.** Long-term antibody response and immunologic memory in children immunized with hepatitis B vaccine at birth. *Indian Pediatr*. 2004 Dec;41(12):1232-7.

**Boxall EH, A Sira J, El-Shuhkri N, Kelly DA.** Long-term persistence of immunity to hepatitis B after vaccination during infancy in a country where endemicity is low. *J Infect Dis*. 2004 Oct 1;190(7):1264-9.

**Chen HL, Chang CJ, Kong MS, Huang FC, Lee HC, Lin CC, Liu CC, Lee IH, Wu TC, Wu SF, Ni YH, Hsu HY, Chen DS, Chang MH.** Pediatric fulminant hepatic failure in endemic areas of hepatitis B infection: 15 years after universal hepatitis B vaccination. *Hepatology*. 2004 Jan;39(1):58-63.

**Yuen MF, Lim WL, Chan AO, Wong DK, Sum SS, Lai CL.** 18-year follow-up study of a prospective randomized trial of hepatitis B vaccinations without booster doses in children. *Clin Gastroenterol Hepatol*. 2004 Oct;2(10):941-5.

**Petersen KM, Bulkow LR, McMahon BJ, Zanis C, Getty M, Peters H, Parkinson AJ.** Duration of hepatitis B immunity in low risk children receiving hepatitis B vaccinations from birth. *Pediatr Infect Dis J*. 2004 Jul;23(7):650-5.

**Lin YC, Chang MH, Ni YH, Hsu HY, Chen DS.** Long-term immunogenicity and efficacy of universal hepatitis B virus vaccination in Taiwan. *J Infect Dis*. 2003 Jan 1;187(1):134-8.

**Banatvala JE, Van Damme P.** Hepatitis B vaccine -- do we need boosters? *J. Viral Hepat*. 2003 Jan;10(1): 1-6.

**European Consensus Group on Hepatitis B Immunity.** Are booster immunisations needed for lifelong hepatitis B immunity? European Consensus Group on Hepatitis B Immunity. *Lancet*. 2000 Feb 12;355(9203):561-5.

**Huang LM, Chiang BL, Lee CY, Lee PI, Chi WK, Chang MH.** Long-term response to hepatitis B vaccination and response to booster in children born to mothers with hepatitis B e antigen. *Hepatology*. 1999 Mar;29(3):954-9.

**Lin DB, Wang HM, Lee YL, Ling UP, Changlai SP, Chen CJ.** Immune status in preschool children born after mass hepatitis B vaccination program in Taiwan. *Vaccine*. 1998 Oct;16(17):1683-7.

**Poovorawan Y, Sanpavat S, Chumdermpadetsuk S, Safary A.** Long-term hepatitis B vaccine in infants born to hepatitis B e antigen positive mothers. *Arch Dis Child Fetal Neonatal Ed.* 1997 Jul;77(1):F47-51.

**Xu ZY, Duan SC, Margolis HS, Purcell RH, Ou-Yang PY, Coleman PJ, Zhuang YL, Xu HF, Qian SG, Zhu QR, et al.** Long-term efficacy of active postexposure immunization of infants for prevention of hepatitis B virus infection. United States-People's Republic of China Study Group on Hepatitis B. *J Infect Dis.* 1995 Jan;171(1):54-60.

**Coursaget P, Leboulleux D, Soumare M, le Cann P, Yvonnet B, Chiron JP, Coll-Seck AM, Diop-Mar I.** Twelve-year follow-up study of hepatitis B immunization of Senegalese infants. *J Hepatol.* 1994 Aug;21(2):250-4.

**Zhu QR, Gu XH, Duan SC, Xu HF.** Long-term immunogenicity and efficacy of recombinant yeast derived hepatitis B vaccine for interruption of mother-infant transmission of hepatitis B virus. *Chin Med J (Engl).* 1994 Dec;107(12):915-8.

**Marion SA, Tomm Pastore M, Pi DW, Mathias RG:** Long-term follow-up of hepatitis B vaccine in infants of carrier mothers. *Am J Epidemiol* 1994;140:734-746.

**Mintai Z, Kezhou L, Lieming D, Smego RA Jr.** Duration and efficacy of immune response to hepatitis B vaccine in high-risk Chinese adolescents. *Clin Infect Dis.* 1993 Jan;16(1):165-7.

**Poovorawan Y, Sanpavat S, Pongpunglert W, Chumdermpadetsuk S, Sentrakul P, Vandepapeliere P, Safary A.** Long term efficacy of hepatitis B vaccine in infants born to hepatitis B e antigen-positive mothers. *Pediatr Infect Dis J.* 1992 Oct;11(10):816-21.

## Hepatitis B vaccine combinations

**Capeding MR, Cadorna-Carlos J, Book-Montellano M, Ortiz E.** Immunogenicity and safety of a DTaP-IPV//PRP approximately T combination vaccine given with hepatitis B vaccine: a randomized open-label trial. *Bull World Health Organ.* 2008 Jun; 86(6):443-51.

**Wong SL, Soosai P, Teoh YL, Han HH, Lefevre I, Bock HL.** Four is better than nine. a combined diphtheria-tetanus-pertussis-hepatitis B-Haemophilus influenzae type b vaccine for routine immunization in Malaysia. *Southeast Asian J Trop Med Public Health.* 2008 May;39(3):474-83.

**Wheeler CM, Bautista OM, Tomassini JE, Nelson M, Sattler CA, Barr E; Protocol 11 study Investigators.** Safety and immunogenicity of co-administered quadrivalent human papillomavirus (HPV)-6/11/16/18 L1 virus-like particle (VLP) and hepatitis B (HBV) vaccines. *Vaccine.* 2008 Jan 30;26(5):686-96.

**Lim FS, Han HH, Jacquet JM, Bock HL.** Primary vaccination of infants against hepatitis B can be completed using a combined hexavalent diphtheria-tetanus-acellular pertussis-hepatitis B-inactivated poliomyelitis-Haemophilus influenzae type B vaccine. *Ann Acad Med Singapore.* 2007 Oct; 36(10):801-6.

**Bavdekar SB, Maiya PP, Subba Rao SD, Datta SK, Bock HL.** Immunogenicity and safety of combined diphtheria tetanus whole cell pertussis hepatitis B/ Haemophilus influenzae type b vaccine in Indian infants. *Indian Pediatr.* 2007 Jul;44(7):505-10.

**Pichichero ME, Bernstein H, Blatter MM, Schuerman L, Chevart B, Holmes SJ; 085 Study Investigators.** Immunogenicity and safety of a combination diphtheria, tetanus toxoid, acellular pertussis, hepatitis B, and inactivated poliovirus vaccine coadministered with a 7-valent pneumococcal conjugate vaccine and a Haemophilus influenzae type b conjugate vaccine. *J Pediatr.* 2007 Jul;151(1):43-9, 49.e1-2.

**Heininger U; DTP-HBV-IPV-059 Study Group; DTP-HBV-IPV-096 Study Group, Sanger R, Jacquet JM, Schuerman L.** Booster immunization with a hexavalent diphtheria, tetanus, acellular pertussis, hepatitis B, inactivated poliovirus vaccine and Haemophilus influenzae type b conjugate combination vaccine in the second year of life: safety, immunogenicity and persistence of antibody responses. *Vaccine.* 2007 Jan 22;25(6):1055-63.

**Omeñaca F, Garcia-Sicilia J, Garca-Corbeira P, Boceta R, Romero A, Lopez G, Dal-Re R.** Response of preterm newborns to immunization with a hexavalent diphtheria-tetanus-acellular pertussis-hepatitis B virus-inactivated polio and Haemophilus influenzae type b vaccine: first experiences and solutions to a serious and sensitive issue. *Pediatrics.* 2005 Dec;116(6):1292-8.

**Duval B, Gilca V, Boulianne N, Deceuninck G, Rochette L, De Serres G.** Immunogenicity of two paediatric doses of monovalent hepatitis B or combined hepatitis A and B vaccine in 8-10-year-old children. *Vaccine.* 2005 Jul 1;23(31):4082-7.

**Van Damme P, Van Herck K.** A review of the efficacy, immunogenicity and tolerability of a combined hepatitis A and B vaccine. *Expert Rev Vaccines.* 2004 Jun;3(3):249-67.

**Faingezicht I, Avila-Aguerro ML, Cervantes Y, Fourneau M, Clemens SA.** Primary and booster vaccination with DTPw-HB/Hib pentavalent vaccine in Costa Rican children who had received a birth dose of hepatitis B vaccine. *Rev Panam Salud Publica.* 2002 Oct;12(4):247-57.

**Pichichero ME, Blatter MM, Reisinger KS, Harrison CJ, Johnson CE, Steinhoff MC, Senders SD, Rothstein EP, Willems P, Howe BJ.** Impact of a birth dose of hepatitis B vaccine on the reactogenicity and immunogenicity of diphtheria-tetanus-acellular pertussis-hepatitis B-inactivated poliovirus-Haemophilus influenzae type b combination vaccination. *Pediatr Infect Dis J.* 2002 Sep;21(9):854-9

## Hep B-vaccine in immunocompromised

**Nikolopoulos GK et al.** Impact of hepatitis B virus infection on the progression of AIDS and mortality in HIV-infected individuals: a cohort study and meta-analysis. *Clinical Infectious Diseases*, 2009, 48:1763–71.

- Beran J.** Safety and immunogenicity of a new hepatitis B vaccine for the protection of patients with renal insufficiency including pre-haemodialysis and haemodialysis patients. *Expert Opin Biol Ther.* 2008 Feb;8(2):235-47
- Kong NC et al.** A new adjuvant improves the immune response to hepatitis B vaccine in hemodialysis patients. *Kidney International*,2008,73:856-862.
- de Vries-Sluijs TE, Hansen BE, van Doornum GJ, Springeling T, Evertsz NM, de Man RA, van der Ende ME.** A prospective open study of the efficacy of high-dose recombinant hepatitis B rechallenge vaccination in HIV-infected patients. *J Infect Dis.* 2008 Jan 15;197(2):292-4.
- Shafran SD, Mashinter LD, Lindemulder A, Taylor GD, Chiu I.** Poor efficacy of intradermal administration of recombinant hepatitis B virus immunization in HIV-infected individuals who fail to respond to intramuscular administration of hepatitis B virus vaccine. *HIV Med.* 2007 Jul;8(5):295-9.
- Kundi M.** New hepatitis B vaccine formulated with an improved adjuvant system. *Expert Rev Vaccines.* 2007 Apr;6(2):133-40.
- Park SD, Markowitz J, Pettei M, Weinstein T, Sison CP, Swiss SR, Levine J.** Failure to respond to hepatitis B vaccine in children with celiac disease. *J Pediatr Gastroenterol Nutr.* 2007 pr;44(4):431-5.
- Rosenau J, Hooman N, Hadem J, Rifai K, Bahr MJ, Philipp G, Tillmann HL, Klempnauer J, Strassburg CP, Manns MP.** Failure of hepatitis B vaccination with conventional HBsAg vaccine in patients with continuous HBIG prophylaxis after liver transplantation. *Liver Transpl.* 2007 Mar;13(3):367-73.
- Daryani NE, Nassiri-Toosi M, Rashidi A, Khodarahmi I.** Immunogenicity of recombinant hepatitis B virus vaccine in patients with and without chronic hepatitis C virus infection: a case-control study. *World J Gastroenterol.* 2007 Jan 14;13(2):294-8.
- Cornejo-Juárez P, Volkow-Fernández P, Escobedo-López K, Vilar-Compte D, Ruiz-Palacios G, Soto-Ramírez LE.** Randomized controlled trial of Hepatitis B virus vaccine in HIV-1-infected patients comparing two different doses. *AIDS Res Ther.* 2006 Apr 6;3:9.
- Aziz A, Aziz S, Li DS, Murphy L, Leone N, Kennedy M, Dhillon S, Van Thiel DH.** Efficacy of repeated high-dose hepatitis B vaccine (80 microg) in patients with chronic liver disease. *J Viral Hepat.* 2006 Apr;13(4):217-21.
- Pasricha N, Datta U, Chawla Y, Singh S, Arora SK, Sud A, Minz RW, Saikia B, Singh H, James I, Sehgal S.** Immune responses in patients with HIV infection after vaccination with recombinant Hepatitis B virus vaccine. *BMC Infect Dis.* 2006 Mar 30;6:65.
- Godkin A, Davenport M, Hill AV.** Molecular analysis of HLA class II associations with hepatitis B virus clearance and vaccine nonresponsiveness. *Hepatology.* 2005 Jun;41(6):1383-90.
- Froutan-Pishbijari H, Ghofrani H, Mirmomenm S, Kazemi-Asl S, Nassiri-Toosi M, Farahvash MJ, Toroghi HH, Aminian K, Mansour-Ghanaei F, Bagherzadeh AH.** Immunogenicity of hepatitis B vaccine in multi-transfused thalassemic patients with and



without hepatitis C infection: a comparative study with healthy controls. *Med Sci Monit.* 2004 Dec;10(12):CR679-83.

**Fabrizi F, Martin P, Dixit V, Bunnapradist S, Dulai G.** Meta-analysis: the effect of age on immunological response to hepatitis B vaccine in end-stage renal disease. *Aliment Pharmacol Ther.* 2004 Nov 15;20(10):1053-62.

**Schroth RJ, Hitchon CA, Uhanova J, Noreddin A, Taback SP, Moffatt ME, Zacharias JM.** Hepatitis B vaccination for patients with chronic renal failure. *Cochrane Database Syst Rev.* 2004;(3):CD003775.

**Saari TN;** Immunization of preterm and low birth weight infants. *American Academy of Pediatrics Committee on Infectious Diseases. Pediatrics.* 2003 Jul;112(1 Pt 1):193-8.

**Rich JD et al.** A review of the case for hepatitis B vaccination of high-risk adults. *American Journal of Medicine,* 2003,114:316-318.

**Losonsky GA et al.** Hepatitis B vaccination of premature infants: a reassessment of current recommendations for delayed immunization. *Paediatrics,* 1999,103:E1.

## Therapeutic use of hepatitis B-vaccines

**Vandepapelière P, Lau GK, Leroux-Roels G, Horsmans Y, Gane E, Tawandee T, Merican MI, Win KM, Trepo C, Cooksley G, Wettendorff M, Ferrari C; Therapeutic HBV Vaccine Group of Investigators.** Therapeutic vaccination of chronic hepatitis B patients with virus suppression by antiviral therapy: a randomized, controlled study of co-administration of HBsAg/AS02 candidate vaccine and lamivudine. *Vaccine.* 2007 Dec 12;25(51):8585-97.

**Ishikawa T, Kakumu S.** Use of hepatitis B vaccine for the treatment of chronic hepatitis B. *Hepatol Res.* 2007 Oct;37 Suppl 3:S347-50.

## Vaccine associated adverse events

**de Carvalho JF, Shoenfeld Y.** Status epilepticus and lymphocytic pneumonitis following hepatitis B vaccination. *Eur J Intern Med.* 2008 Jul;19(5):383-5.

**WHO Global Advisory Committee on Vaccine Safety,** 12-13 December 2007. *Wkly Epidemiol Rec.* 2008 Jan 25;83(4):37-44. English, French. No abstract available.

**(WHO 2003-2008)** [http://www.who.int/vaccine\\_safety/topics/hepatitisb/en/index.html](http://www.who.int/vaccine_safety/topics/hepatitisb/en/index.html)

**Vandepapelière P, Lau GK, Leroux-Roels G, Horsmans Y, Gane E, Tawandee T, Merican MI, Win KM, Trepo C, Cooksley G, Wettendorff M, Ferrari C; Therapeutic HBV Vaccine Group of Investigators.** Therapeutic vaccination of chronic hepatitis B patients with virus suppression by antiviral therapy: a randomized, controlled study of co-administration of HBsAg/AS02 candidate vaccine and lamivudine. *Vaccine.* 2007 Dec 12;25(51):8585-97.

**Mikaeloff Y, Caridade G, Rossier M, Suissa S, Tardieu M.** Hepatitis B vaccination and the risk of childhood-onset multiple sclerosis. *Arch Pediatr Adolesc Med.* 2007 Dec;161(12):1176-82.

**Mikaeloff Y et al.** Hepatitis B vaccine and risk of relapse after a first childhood episode of CNS inflammatory demyelination. *Brain.* 2007;130:1105-1110.

**Sheldon J, Ramos B, Garcia-Samaniego J, Rios P, Bartholomeusz A, Romero M, Locarnini S, Zoulim F, Soriano V.** Selection of hepatitis B virus (HBV) vaccine escape mutants in HBV-infected and HBV/HIV-coinfected patients failing antiretroviral drugs with anti-HBV activity. *J Acquir Immune Defic Syndr.* 2007 Nov 1;46(3):279-82.

**Yu O, Bohlke K, Hanson CA, Delaney K, Rees TG, Zavitkovsky A, Ray P, Mullooly J, Black SB, Benson P, Thompson WW, Davis RL, Jackson LA.** Hepatitis B vaccine and risk of autoimmune thyroid disease: a Vaccine Safety Datalink study. *Pharmacoepidemiol Drug Saf.* 2007 Jul;16(7):736-45.

**Mikaeloff Y, Caridade G, Assi S, Tardieu M, Suissa S; KIDSEP study group of the French Neuropaediatric Society.** Hepatitis B vaccine and risk of relapse after a first childhood episode of CNS inflammatory demyelination. *Brain.* 2007 Apr;130(Pt 4):1105-10.

**Shinefield H, Black S, Thear M, Coury D, Reisinger K, Rothstein E, Xu J, Hartzel J, Evans B, Digilio L, Schödel F, Brown ML, Kuter B; The 013 Study Group for ProQuad.** Safety and immunogenicity of a measles, mumps, rubella and varicella vaccine given with combined *Haemophilus influenzae* type b conjugate/hepatitis B vaccines and combined diphtheria-tetanus-acellular pertussis vaccines. *Pediatr Infect Dis J.* 2006 Apr;25(4):287-92.

**Woo EJ, Miller NB, Ball R; VAERS Working Group.** Adverse events after hepatitis A B combination vaccine. *Vaccine.* 2006 Mar 24;24(14):2685-91.

**Meriste S, Lutsar I, Tamm E, Willems P.** Safety and immunogenicity of a primary course and booster dose of a combined diphtheria, tetanus, acellular pertussis, hepatitis B and inactivated poliovirus vaccine. *Scand J Infect Dis.* 2006;38(5):350-6.

**Geier MR, Geier DA.** A case-series of adverse events, positive re-challenge of symptoms, and events in identical twins following hepatitis B vaccination: analysis of the Vaccine Adverse Event Reporting System (VAERS) database and literature review. *Clin Exp Rheumatol.* 2004 Nov-Dec;22(6):749-55.

**Luman ET, Fiore AE, Strine TW, Barker LE.** Impact of thimerosal-related changes in hepatitis B vaccine birth-dose recommendations on childhood vaccination coverage. *JAMA.* 2004 May 19;291(19):2351-8.

**Hernán MA, Jick SS, Olek MJ, Jick H.** Recombinant hepatitis B vaccine and the risk of multiple sclerosis: a prospective study. *Neurology.* 2004 Sep 14;63(5):838-42.

**Eriksen EM, Perlman JA, Miller A, Marcy SM, Lee H, Vadheim C, Zangwill KM, Chen RT, DeStefano F, Lewis E, Black S, Shinefield H, Ward JI.** Lack of association between hepatitis B birth immunization and neonatal death: a population-based study from the vaccine safety datalink project. *Pediatr Infect Dis J.* 2004 Jul;23(7):656-62.

**Zepp F, Knuf M, Heininger U, Jahn K, Collard A, Habermehl P, Schuerman L, Sanger R.** Safety, reactogenicity and immunogenicity of a combined hexavalent tetanus, diphtheria, acellular pertussis, hepatitis B, inactivated poliovirus vaccine and Haemophilus influenzae type b conjugate vaccine, for primary immunization of infants. *Vaccine*. 2004 Jun 2;22(17-18):2226-33.

**Duclos P.** Safety of immunisation and adverse events following vaccination against hepatitis B. *Expert Opin Drug Saf*. 2003 May;2(3):225-31.

**DeStefano F, Verstraeten T, Chen RT.** Hepatitis B vaccine and risk of multiple sclerosis. *Expert Rev Vaccines*. 2002 Dec;1(4):461-6.

**Jefferson T, Traversa G.** Hepatitis B vaccination: risk-benefit profile and the role of systematic reviews in the assessment of causality of adverse events following immunisation. *J Med Virol*. 2002 Jul;67(3):451-3.

## Cost and Cost-effectiveness of Hep B vaccination

**Hu Y, Grau LE, Scott G, Seal KH, Marshall PA, Singer M, Heimer R.** Economic evaluation of delivering hepatitis B vaccine to injection drug users. *Am J Prev Med*. 2008 Jul;35(1):25-32.

**Kim SY, Salomon JA, Goldie SJ.** Economic evaluation of hepatitis B vaccination in low-income countries: using cost-effectiveness affordability curves. *Bull World Health Organ*. 2007 Nov;85(11):833-42

**Griffiths UK, Hutton G, Das Dores Pascoal E.** The cost-effectiveness of introducing hepatitis B vaccine into infant immunization services in Mozambique. *Health Policy and Planning*, 2005, 20:50-59.

**Levin CE et al.** The costs of home delivery of a birth dose of hepatitis B vaccine in a prefilled syringe in Indonesia. *Bulletin of the World Health Organization*, 2005, 83:456-61.

**Beutels P, Edmunds WJ, Antonanzas F, De Wit GA, Evans D, Feilden R, Fendrick AM, Ginsberg GM, Glick HA, Mast E, Pechevis M, Van Doorslaer EK, van Hout BA;** Viral Hepatitis Prevention Board. Economic evaluation of vaccination programmes: a consensus statement focusing on viral hepatitis. *Pharmacoeconomics*. 2002;20(1):1-7.

**Harris A, Yong K, Kermode M.** An economic evaluation of universal infant vaccination against hepatitis B virus using a combination vaccine (Hib-HepB): a decision analytic approach to cost effectiveness. *Australian and New Zealand Journal of Public Health*, 2001,25):222-229.

**Margolis HS et al.** Prevention of hepatitis B virus transmission by immunization. An economic analysis of current recommendations. *Journal of the American Medical Association* 1995,274:1201-1208.

# Hepatitis B immunoglobulin

**WHO Scientific Advisory Group of Experts.** Report in Weekly Epidemiological Record 2009, 84, 213-236.

**Beasley RP, Hwang LY, Stevens CE, Lin CC, Hsieh FJ, Wang KY, et al.** Efficacy of hepatitis B immune globulin for prevention of perinatal transmission of the hepatitis B virus carrier state: final report of a randomized double-blind, placebo-controlled trial. *Hepatology* 1983; 3(2):135–41.

**Beasley RP, Hwang LY, Szmuness W, Stevens CE, Lin CC, Hsieh FJ, et al.** HBIG prophylaxis for perinatal HBV infections - final report of the Taiwan trial. *Developmental Biology Standard* 1983;54:363–75.