

NOTES

HEPATITIS B AND DENTISTRY: MEDICO-LEGAL IMPLICATIONS OF DENTIST TO PATIENT TRANSMISSION

Viral hepatitis¹ poses great concern to the health care professional. The disease presents an occupational hazard² to all members of the health care profession and especially to dentists³ because of its oral mode of transmission.⁴ The concern, however, lies not only with the health care worker who contracts the disease, but also with those who transmit the infection to their patients.

This Note explores the medico-legal implications of dentist to patient transmission, focusing on whether dentists can or should be held liable for transmitting hepatitis to their patients. Part One of this Note discusses the epidemiology of hepatitis. Part Two examines available hepatitis prevention and control measures emphasizing the current dental standard of care in light of these safeguards. Part Three describes the present state of medical malpractice law in the areas of standard of care, informed consent and *res ipsa loquitur*. Part Four provides a synthesis of the existing case law and the current dental standard of care towards a determination of whether courts will hold dentists liable for transmitting hepatitis to their patients.

I. EPIDEMIOLOGY OF HEPATITIS

The liver performs functions vital to the human body,⁵ yet it remains susceptible to a variety of diseases.⁶ The most common disease is hepa-

1. Viral Hepatitis is an "[i]nflammation of the liver; either viral hepatitis type A or type B; in the acute stage both types are characterized by necrosis of scattered liver cells and periportal inflammation, mainly by lymphocytes." *STEDMAN'S MEDICAL DICTIONARY* 636 (23d ed. 1976). For a more detailed description, see *infra* notes 8-30 and accompanying text.

2. See *infra* notes 23-31 and accompanying text.

3. See *infra* notes 23-31 and accompanying text.

4. See *infra* notes 22-23 and accompanying text.

5. The liver cleanses blood returning from the intestines, manufactures bile to facilitate the digestion of fats, and produces various proteins including those involved in blood coagulation. Gill, Stout, Fast & Ragan, *Facts You Should Know About Hepatitis B*, *DENTAL STUDENT*, Sept. 1982, 11, 11 [hereinafter cited as *Facts You Should Know*].

6. A few of the more common liver diseases include Curschmann's disease, alcoholic cirrhosis, and cancer. *STEDMAN'S MEDICAL DICTIONARY* 802 (23d ed. 1976).

titis,⁷ most frequently caused by a viral infection.⁸

Viral hepatitis exists in two forms:⁹ type A (HAV—formerly known as infectious hepatitis) and type B (HBV—formerly known as serum hepatitis).¹⁰ Though clinically HAV and HBV resemble each other, the two forms vary greatly in the mode of transmission and in the severity of the disease.¹¹ HBV is the more serious of the two and the one most frequently transmitted from dentist to patient.¹² Hence, HBV serves as the focus of this Note.

HBV, an often severe and debilitating form of the disease with a

7. *Facts You Should Know*, *supra* note 5, at 11.

8. Other causes of hepatitis include chronic alcohol ingestion and toxic effects of drugs. *Id.*

9. A newly discovered form, type non-A non-B, is currently under widespread study. *Facts You Should Know*, *supra* note 5, at 11.

10. The medical profession labeled hepatitis type A "infectious hepatitis" because of the belief that the intestinal-oral route transmitted the virus. In the past, the medical profession referred to hepatitis type B as "serum hepatitis" because of the belief that infected blood transmitted it via the parenteral route. Hepatitis type B, however, can also be contracted by infected saliva. Therefore the terms infectious and serum hepatitis are no longer appropriate. Smith, *Viral Hepatitis—An Occupational Risk of Dentists*, 55 NW DENTISTRY 202, 202-203 (1976).

11. Viral hepatitis A (HAV) is the milder of the two viral forms. It has a relatively short incubation period, usually between fifteen and forty days. The illness usually begins with fatigue and may be accompanied by abdominal discomfort. From two to fourteen days later, jaundice, dark urine, and light stool may appear. In most instances the onset is acute, with jaundice appearing early, accompanied by fever and chills. In some cases, however, the patient fails to recognize jaundice and may be aware of only flu-like symptoms. Almost all HAV infections result in only minor illness. Fever and other symptoms usually subside within a week, and jaundice disappears within two or three weeks.

The mode of transmission is generally the fecal-oral route among persons living in close contact. Because of this, HAV tends to have a higher incidence among children, whose lack of hygienic habits encourages fecal-oral spread to other children and adults. Health authorities also have traced outbreaks of HAV to contaminated water supplies or ingestion of infected shellfish. Although transmission of HAV is most frequently oral, evidence exists that it may also be transmitted parenterally.

Viral Hepatitis B (HBV) is the most serious viral form. It requires a long incubation period of anywhere from six weeks to six months. Clinical symptoms resemble the type A infection, but the illness tends to be more severe, requiring hospitalization for extended periods. Experts estimate the mortality rate at about ten percent, but during certain outbreaks estimates reach as high as 35 percent. Infection commonly transmits HBV via a parenteral route during transfusions of blood and blood products, or by some other form of inoculation, particularly those by parenteral drug abusers. See Alter, Holland & Purcell, *Viral Hepatitis, Light at the End of the Tunnel*, 229 J.A.M.A. 293, 293-94 (1974); Hribar, *Viral Hepatitis: A Review of Clinical, Laboratory and Research Aspects*, 22 AUSTRALIAN DENTAL J. 471, 471-75 (1977); Reed & Boyer, *Viral Hepatitis: Epidemiological, Serologic and Clinical Manifestations*, 25 DISEASE-A-MONTH 6, 6-15 (1979); Rothstein, Goldman & Arcomano, *Hepatitis B Virus: An Overview for Dentists*, 102 J.A.D.A. 173, 173-74 (1981) [hereinafter cited as *An Overview*]. See also Mosley, *The Epidemiology of Viral Hepatitis: An Overview*, 270 AM. J. MED. SCI. 253, 253-65 (1975).

12. See *infra* note 28 and accompanying text.

mortality rate approaching ten percent, greatly concerns United States health officials today.¹³ Several aspects of the disease contribute to this concern. First, in the last two decades the United States witnessed a dramatic increase in the reported incident rate. In 1966, the Center for Disease Control received reports of 1,497 cases; by 1981, this figure increased almost twenty-fold to 21,152 cases.¹⁴ Even more startling, the reported cases account for only ten to twenty percent of the cases that occur.¹⁵ Experts estimate that the incidence of HBV approaches 200,000 new cases annually.¹⁶

Another concern is the disease in its carrier state.¹⁷ Of the estimated 200,000 individuals likely to contract HBV in a given year, approximately 56,000 individuals will have no clinical symptoms¹⁸ and 12,000 to 20,000 will become chronic carriers of the disease.¹⁹ Of the estimated 800,000 carriers today in the United States, many experience no clinical symptoms.²⁰ These asymptomatic carriers pose a serious threat to others because, unaware of the presence of the disease and of their

13. Reed & Boyer, *supra* note 11, at 8.

14. Center for Disease Control, *Immune Globulins for Protection Against Viral Hepatitis*, 26 MORBIDITY AND MORTALITY WEEKLY REP. 425, 426-27 (1978). U.S. Dept. of Health and Human Services, 1981 *Annual Summary*, 30 MORBIDITY AND MORTALITY WEEKLY REP. 6 (1982).

15. *An Overview*, *supra* note 11, at 174.

16. *See Facts You Should Know*, *supra* note 5, at 11.

17. An understanding of the carrier state necessitates a discussion of the HBV antigen-antibody systems.

An antigen is any foreign material (i.e., microorganisms, toxins, foreign proteins, foreign cells or tissues, etc.) that produces an antibody response. The body produces an antibody that serves to neutralize the antigen and thus produces immunity to certain foreign matters. *See* STEDMAN'S MEDICAL DICTIONARY 88, 91 (23d ed. 1976).

HBV uses three antigen-antibody systems. The HBV surface antigen, designated HB_sAg, produces the corresponding antibody HB_sAb. The core antigen, HB_cAg, also has a corresponding antibody, HB_cAb. Medical researchers recently discovered the third antigen-antibody system, the "e" system (HB_eAg and HB_eAb).

During the course of a typical acute infection, tests can detect the surface antigen (HB_sAg) in the serum four to eight weeks before clinical symptoms occur. Soon thereafter HB_cAg and HB_cAb become detectable. In contrast the antibody of HB_sAg (HB_sAb) appears much later and may persist indefinitely producing lifetime immunity from future exposures. Generally, complete recovery follows; however, acute hepatitis can proceed to chronic hepatitis with HB_sAg and HB_cAb persisting and with no detectable HB_eAb. The carrier appears asymptomatic and may be infectious for a lifetime. *See* Mosley, *supra* note 11, at 258-65; Reed & Boyer, *supra* note 11, at 11-15.

18. *An Overview*, *supra* note 11, at 174. In these individuals, the body produces HB_sAb in amounts equivalent to that present in individuals who had clinical symptoms after recovery. *Id.*

19. *See Facts You Should Know*, *supra* note 5, at 11.

20. Reed & Boyer, *supra* note 11, at 35-36.

carrier status, they exercise none of the precautions necessary to prevent the spread of HBV.

Infected blood most commonly transmits HBV via a parenteral route.²¹ Recently, several case studies documented transmission by saliva and other bodily fluids.²² As dentists work in the oral cavity of their patients this mode of transmission places the dentist at an especially high risk of contracting and later transmitting the disease.²³ They use sharp cutting instruments and high speed drills that expose them to a mixture of blood and saliva.²⁴ In addition, dentists often sustain minor cuts or abrasions on their hands due to the use of these instruments.²⁵ These cuts and abrasions serve as a point of entry for the patient's infected blood.²⁶ Further, because as little as 1×10^{-7} ml. of contaminated blood may transmit the virus, a doctor's minor cutaneous breaks subsequently may transmit the disease to other patients.²⁷ This represents more than mere conjecture. Since 1974 at least five investigations by various centers for disease control implicated dental professionals as the source of HBV infection for their patients.²⁸ Addi-

21. *An Overview, supra* note 11, at 173. "Parenteral" means "[b]y some other means than through the intestinal canal, referring particularly to the introduction of nutritive material into veins and subcutaneous tissues." *STEDMAN'S MEDICAL DICTIONARY* 1032 (23d ed. 1976).

22. *See* Smith, *supra* note 10, at 203-05. For instance, aerosol produced by high speed instruments also transmits HBV as do airborne droplets of saliva and blood. Goebel, *Reliability of Medical History in Identifying Patients Likely to Place Dentists at Increased Hepatitis Risk*, 98 J.A.D.A. 907, 910 (1979); Villarejos, Visona, Guitierrez & Rodriguez, *Role of Saliva, Urine and Feces in the Transmission of Type B Hepatitis*, 291 *NEW ENG. J. MED.*, 1375, 1375-78 (1974).

23. Dentists engaged in private practice treat an average of 3,500 patients per year. Council on Dental Materials and Devices & Council on Dental Therapeutics, *Infection Control in the Dental Office*, 97 J.A.D.A. 673 (1978) [hereinafter cited as *Infection Control*]. This average approximates 16 patients a day.

24. *See* Glazer, Spatz & Catone, *Viral Hepatitis: A Hazard to Oral Surgeons*, 31 *J. ORAL SURGERY* 504, 504-08 (1973).

25. *Id.*

26. The existing medical literature cites this situation as the primary source of patient to dentist transmission. *See, e.g.*, Feldman & Schiff, *Hepatitis in Dental Professionals*, 232 J.A.M.A. 1228, 1230 (1975); Mosley, Edwards, Casey, Redeker & White, *Hepatitis B Virus Infection in Dentists*, 293 *NEW ENG. J. MED.* 729, 729-34 (1975) [hereinafter cited as *Infection in Dentists*]; Sywasink & Lutwick, *Risk of Hepatitis B in Dental Care Providers: A Contact Study*, 105 *J. A.D.A.* 182 (1983).

27. *See, e.g.*, *Facts You Should Know, supra* note 5, at 12-14; Hribar, *supra* note 11, at 475; Smith *supra* note 10, at 203. Experts most frequently cite such cutaneous transmission as the source of dentist to patient transmission. *Id.*

28. Goodwin, Fannin & McCracken, *Epidemiology of an Oral Surgery Related Outbreak of Hepatitis B*, 14 *CAL. MORBIDITY* 304, 304-09 (1976) (at least 55 cases of HBV traced to oral surgeon); Hadler, *An Outbreak of Hepatitis B in a Dental Practice*, 95 *ANNALS OF INTERNAL MED.* 133, 133-38 (1981) (six cases of HBV traced to general dentist); Levin, Maddrey, Wands &

tionally, several studies found that general dentists have an overall HBV incidence rate of 13.6 percent and that oral surgeons have an incidence rate of 21 percent.²⁹ This rate compares with an incidence of only two to three percent of the general population.³⁰ The carrier rate among dental personnel of one or two percent, or ten to twenty times greater than the general population, is correspondingly high.³¹

II. HBV PREVENTION AND THE DENTAL STANDARD OF CARE

The actual number of hepatitis type B cases transmitted because of dental treatment remains low compared to the total HBV cases occurring annually.³² Notwithstanding, the dentist's constant exposure to viral transmitters, as well as the documentation of dentist to patient

Medeloff, *Hepatitis B Transmission by Dentists*, 228 J.A.M.A. 1139, 1139-40 (1974) (12 cases of HBV traced to general dentist); Reingold, Kane, Murphy, Checko, Francis & Maynard, *Transmission of Hepatitis B by an Oral Surgeon*, 145 J. INFECTIOUS DISEASE 262, 262-68 (1982) (52 cases of HBV traced to oral surgeon); Rimland, Parkin, Miller & Schrack, *Hepatitis B Outbreak Traced to an Oral Surgeon*, 296 NEW ENG. J. MED. 953, 953-58 (1977) (55 cases of HBV traced to oral surgeon). See generally Ahtone & Goodman, *Hepatitis B and Dental Personnel: Transmission to Patients and Prevention Issues*, 106 J.A.D.A. 219 (1983) (discussing in detail case histories of dentist to patient transmission) [hereinafter cited as *Hepatitis B and Dental Personnel*].

29. See Crawford, *New Light of the Transmissibility of Viral Hepatitis in Dental Practice and its Control*, 91 J.A.D.A. 829, 829-30 (1975); *Infection in Dentists*, *supra* note 26, at 729-34; *Facts You Should Know*, *supra* note 5, at 12. See generally Lewis, *A Comparison of the Frequency of Hepatitis B Antigen and Antibody in Hospital and Nonhospital Personnel*, 289 NEW ENG. J. MED. 647, 647-51 (1973) (dentists, among other health care professionals, participated in a test to detect prevalence of HBV in hospital personnel).

30. Krugman & Goekke, *Viral Hepatitis*, 15 PROBS. IN INTERNAL MED. 1, 6 (1978).

31. See Alexander, *Hepatitis Risk: A Clinical Perspective*, 102 J. A.D.A. 182, 183 (1981); *Infection Control*, *supra* note 23, at 673; Shields, *Dentistry and the Issue of Hepatitis B*, 102 J.A.D.A. 180, 180-82 (1981). Withers, *Hepatitis: A Review of the Disease and Its Significance to Dentistry*, 51 J. PERIODONTOLOGY 162, 164 (1980).

Not all carriers transmit hepatitis to their patients. Researchers believe that the perpetuation of the "e" antigen-antibody system makes some carriers more infectious than others. See, e.g., Hribar, *supra* note 11, at 473; Tullman, Boozer, Villarejos & Feary, *The Threat of Hepatitis B from Dental School Patients*, 49 ORAL SURGERY, ORAL MED. AND ORAL PATHOLOGY 214, 216 (1980) [hereinafter cited as *The Threat of Hepatitis*].

One researcher suggests that three factors account for the transmission by some carriers and not by others: (1) the variability of infectivity of the virus carrier; (2) the variability of the nature of patient exposure (i.e., amount of blood likely to result from the procedure); and, (3) the variability in the potential virus contamination of patient tissues by the infected HBV carrier. See Hadler, *supra* note 28, at 136-37.

32. Studies estimate that one percent of all reported HBV cases are attributable to general dentists. A slightly higher percentage, 1.5%, are attributable to oral surgeons. *Hepatitis B and Dental Personnel*, *supra* note 28, at 220. The actual percentage may be higher since many individuals with HBV demonstrate no overt symptoms. See *supra* note 18 and accompanying text.

transmissions, supports the position that there exists cause for alarm.³³ Prevention and control measures available to reduce the risk, therefore, presents an important issue.

Accurate identification of HBV carriers enables dentists to protect themselves from the disease.³⁴ Currently the dental profession suggests three methods: medical histories;³⁵ identification of HBV high risk groups;³⁶ and serological testing.³⁷

Most dentists obtain a medical history of a prospective patient before initiating doctor-patient contact.³⁸ These histories include direct questions concerning past hepatitis infection, and general questions regarding whether the patient ever had a blood transfusion or renal dialysis.³⁹ Unfortunately medical histories present an ineffective means for diagnosing hepatitis. First, those patients who respond positively about past hepatitis infection often do not know which hepatitis they contracted.⁴⁰ Second, because of the high incidence of nonclinical HBV infections, many potential carriers respond negatively to such

33. See *supra* notes 23-31 and accompanying text.

34. If dentists could distinguish carriers from noncarriers, they could take special precautions with respect to those patients whom they identified as carriers. In theory such precautions would reduce to nearly zero the risk of transmitting the disease. Dentists cannot contract the disease from noncarrier patients. In turn, if the dentist remains free from HBV he cannot transmit the disease to patients. See, e.g., Alexander, *supra* note 31, at 182-85. For a discussion of the various prevention and control measures available, see *infra* notes 49-55 and accompanying text.

35. See Goebel, *supra* note 22, at 907-13; Smith, *supra* note 10, at 205. See also *infra* notes 38-41 and accompanying text.

36. Those groups with the highest incidence rate of HBV constitute the high risk groups. For discussion of these groups, see *infra* notes 42-44 and accompanying text.

37. Serological testing entails screening individuals for the presence of the HBV surface antigen (HB_sAg) in their serum. The presence of persistent HB_sAg and HB_cAb indicates carrier status. See *supra* note 17 and accompanying text. For a discussion of the cost-effectiveness of serological testing, see *infra* notes 45-48 and accompanying text.

38. Alexander, *supra* note 31, at 184; Goebel, *supra* note 22, at 907-13. The American Dental Association (ADA) currently recommends that dentists take thorough medical histories of all new patients. See *Infection Control*, *supra* note 23, at 675 (1975).

39. Doctors have designed indirect questions to identify those individuals who are members of high risk groups. See Council on Dental Therapeutics, *Report of Councils and Bureaus, Type B (serum) Hepatitis and Dental Practice*, 92 J.A.D.A. 153, 155 (1976) [hereinafter cited as *Report of Councils*]. For a discussion of those groups considered high risk, see *infra* notes 42-44 and accompanying text.

40. One expert recently conducted a study to determine the effectiveness of medical histories. Of the 25 patients reporting a past history of HBV, only 14 had serologic evidence of past infection. In addition, 58 of the 140 individuals tested with serologic evidence of past HBV infection, 31 percent had hepatitis type A (HAV). Forty-five percent gave a nonspecific or unknown history. Only 24% identified themselves correctly. See Goebel, *supra* note 22, at 908-12.

questionnaires.⁴¹

Identification of high risk groups can alert the dentist to take special precautions when treating particular patients. High risk groups include renal dialysis patients, patients institutionalized for mental retardation, patients with malignancy treated with frequent transfusions and immuno-suppressive drugs, patients, such as hemophiliacs, who receive blood and blood derivative in large volumes, percutaneous drug abusers, and male homosexuals.⁴² The same defects inherent in the reliance on medical histories, however, are again present. Only a small number of individuals in the group identified will in fact be HBV carriers. Meanwhile, the dentist remains unprotected against the potential HBV carriers not so identified.⁴³ While some dentists employ special preventative measures when working with high risk patients and other dentists refuse to treat them, such conduct is not an established standard of care.⁴⁴

Serological testing⁴⁵ for the HBV antigen is now 99.4 percent accurate.⁴⁶ In a technical sense, therefore, it is possible to pre-screen patients to identify carriers. In addition, dental personnel can subject

41. As noted, *see supra* note 40, 45 percent of individuals serologically positive for HB_sAg gave no history of past HBV infection. *See* Goebel, *supra* note 22, at 909.

42. The mode of transmission of HBV makes these groups high risk. *See supra* notes 21-22 and accompanying text. For instance many percutaneous drug abusers share needles. Because it takes only microscopic amounts of infected blood to transfer the disease, *see supra* note 27 and accompanying text, such a practice enhances the spread of HBV. In fact, the reported incidence rate among drug abusers is 45%. *See* Watkins, *Viral Hepatitis B: A Special Problem of Prevention*, 6 J. AM. SOC'Y PREVENTATIVE DENTISTRY 8, 10 (May-June 1976). Researchers found that homosexuals constitute a high risk group because their semen is positive for HBV antigen almost 50% of the time. *See* Withers, *supra* note 31, at 164. For a general discussion of the high risk groups cited, *see* Alexander, *supra* note 31, at 183; Ferry, *Guidelines for the Prevention of Hepatitis Transmission in Dental Offices*, AM. LIVER FOUND. PUBLICATION 4 (1975); Ross & Clarke, *Hepatitis B in Dentistry: The Current Position*, 150 BRIT. DENTAL J. 89, 90 (1981); *Report of Councils, supra* note 39, at 145; Shields, *supra* note 31, at 180.

43. This exposure exists because a large number of HBV victims never exhibit clinical symptoms. *See supra* note 20 and accompanying text.

44. Studies prove that some dentists discriminate between those patients who are and those who are not members of high risk groups. This practice is not widespread. *See* Shields, *supra* note 31, at 180-81. While the dental profession encourages dentists to employ special precautions such as the use of gloves and masks, *see infra* note 51 and accompanying text, the profession does not recommend that dentists refuse to treat members of high risk groups. Refusal of treatment may cause members of high risk groups to lie on future medical histories, which will in turn prevent other dentists from taking the proper precautions. *See Report of Councils, supra* note 39, at 156-57.

45. *See supra* note 37.

46. Until a few years ago, serological testing was only 30% accurate. Abbott Laboratories,

themselves to periodic testing. Cost and time consumption, however, militate against this alternative becoming a valuable method of HBV prevention.⁴⁷ In addition, the American Dental Association (ADA) stated that it did not recommend routine serological testing at this time.⁴⁸

As a result of the problems discussed above, most of the existing medical literature recommends treating each patient as if he were a potential carrier.⁴⁹ Generally, experts propose the use of thorough medical histories, hand cleansing with antimicrobial soap, the employment of protective glasses, disposable masks and rubber gloves, and the proper autoclaving⁵⁰ of instruments.⁵¹ Case studies indicate that the

however, recently developed Radioimmune Assay (RIA) which is 99.4% accurate in detecting HBV antigen. See *Letters to the Editors*, 102 J.A.D.A. 612 (1981).

47. The value of serological testing is twofold. First, it enables the dentist to identify accurately HBV carriers, and thus take appropriate measures to prevent patient-dentist transmission. Second, as a safety measure, the dentist can routinely test himself to see if he is a carrier capable of transmitting HBV to patients. All medical literature agrees, however, that the prohibitive cost and time involved in testing each patient outweighs the benefits of such testing. This conclusion is correct because of simpler, less expensive and less time consuming alternatives. See Alexander, *supra* note 31, at 183. For a discussion of these alternatives, see *infra* notes 51-55 and accompanying text.

48. According to the Council on Dental Therapeutics of the ADA:

Routine serological testing of dental personnel is not recommended at this time, and anyone who is asked to be tested should be permitted to decline without any adverse action or censure. However, it is extremely important to assess fully the risks in various groups and, therefore, testing in an investigative situation, such as a survey, in which anonymity can be maintained is encouraged.

Report of Councils, supra note 39, at 155. In addition, the Committee on Viral Hepatitis of the National Academy of Sciences also stated that routine antigen testing of "any specific professional group, or imposition of any restrictions on individuals' activities because of antigen-positivity, is not indicated or recommended." Alexander, *supra* note 31, at 184.

49. See, e.g., Alexander, *supra* note 31, at 185; Smith *supra* note 10, at 204-05; *Threat of Hepatitis, supra* note 31, at 216.

50. The autoclave is "1. [a]n apparatus for sterilization by steam under pressure; it consists of a strong closed boiler containing a small quantity of water and, in a wire basket, the articles to be sterilized. 2. *v.* To sterilize in an autoclave." *STEDMAN'S MEDICAL DICTIONARY* 143 (23d ed. 1976).

51. The following quotation represents the proposed clinical guidelines in more detail:
CLINICAL GUIDELINES

1. Every patient should have a thorough medical history taken before dental treatment of any kind. Patients should be initially observed for obvious outward suggestions of disease (yellow eyes or needle marks on the arms).

2. Hands should be washed before all patient seatings, using an effective antimicrobial soap and scrub brush.

3. All personnel working chairside should wear protective glasses, disposable masks, and disposable rubber gloves for all treatment; the minimal expense and inconvenience is far outweighed by the consequences of not taking these precautions. Phones, doors, cabinets, and lights should not be touched with contaminated gloves, unless protected or

combination of these four proposals, particularly the employment of protective devices, reduces the risk of dentist-patient transmission.⁵²

Oral surgeons currently incorporate all four of the above proposals in their standard of care. General dentists, however, do not as a rule

shielded in some fashion. If waterspray handpieces are used, personnel should use high-speed suction and work with rubber dams in place.

4. All waste containers should be lined with high-quality, sealable plastic bags, so debris and waste can be safely disposed of, and the safety of all who handle the refuse can be assured. Needles and knifeblades should not be placed in such bags, where penetration might occur, but disposed of separately.

5. Auxiliary personnel should handle used instruments and burs only with gloved hands before cleaning and sterilization, to avoid inoculating the skin with blood-soaked debris. Precautions should be taken at all times to assure that the soft tissues are not cut, nicked, or inoculated with anything that has contacted the patient's blood or saliva.

6. All autoclavable instruments should be scrubbed free of blood and debris after each use (as described), then autoclaved. No instruments should be carried over from one patient to the next without decontamination. Hand-pieces, light handles, buttons, chairs, and sinks should be wiped for at least 15 to 30 seconds with gluteraldehyde or bleach solution, using protective rubber gloves. Equipment must be subsequently rinsed or wiped to remove the potentially irritating residual solution. The longer the viricidal solution can remain on the equipment, the more effective the protection will be.

7. Air/water syringes and handpiece suction lines should be periodically flushed out with a viricidal or bleach solution, as described.

8. If any patient shows outward indications of disease (icteric eyes or flu symptoms with abdominal pain), the patient should be referred for medical evaluation before treatment. Patients identified as having acute hepatitis should receive emergency treatment only, with great precautions taken to minimize office and equipment contamination, and prevent inoculation of the treating professionals. Linen should be placed in specially marked bags for protection of the laundry personnel. Refuse should be handled as described. After the acute phase has passed, the patient can then be handled in the same manner as a chronic carrier.

9. If a dentist or auxiliary becomes antigen-positive but has no signs of active disease, careful medical follow-up and guidance are essential, but there should not be over concern. The Committee on Viral Hepatitis of the National Academy of Sciences issued a statement in 1972 (which was reaffirmed in 1974) that remains valid today—routine antigen testing of any specific professional group, or imposition of any restrictions on individuals' activities because of antigen-positivity, is not indicated or recommended.

Alexander, *supra* note 31, at 185. For similar proposals, see, e.g., Crawford, *supra* note 29, at 734; Ellen, *The Dental Practitioner and Systematic Infections of Oral Origin*, 28 INT'L DENTAL J. 295, 302-03 (1978); *Threat of Hepatitis*, *supra* note 31, at 216.

In 1976, the Council of Dental Therapeutics of the ADA made recommendations. Unlike most proposals, the ADA recommended the use of gloves only during surgical procedures likely to induce bleeding. The ADA did not advise general dentists to wear gloves. *See Report of Councils*, *supra* note 39, at 157.

52. Case studies demonstrate the effectiveness of gloves in eliminating the risk of dentist-patient transmission. Several studies document that dentists and oral surgeons who transmitted HBV to their patients no longer did so after employing disposable rubber gloves in their practice. *See Hepatitis B and Dental Personnel*, *supra* note 28, at 220-21 (author discusses three case histories involving dentists transmitting HBV to patients; after dentists used gloves, no new cases of HBV discovered). *But see* Goodwin, Fannin & McCracken, *supra* note 28, at 304 (study indicates that patients seen after carrier dentist began wearing gloves developed HBV; upon removal, seemingly undamaged gloves contained multiple microscopic leaks).

wear protective glasses, or disposable masks and rubber gloves.⁵³ The Council on Dental Therapeutics of the ADA currently only recommends wearing such devices during oral surgery procedures.⁵⁴ This position contravenes the weight of existing authority, both in the United States and abroad, which recommends wearing gloves during all procedures.⁵⁵

III. CASE LAW—MEDICAL MALPRACTICE CAUSES OF ACTION

Three basic theories, negligence, informed consent and *res ipsa loquitur*, provide the foundation for medical malpractice claims.⁵⁶

A. *Negligence—a deviation from the standard of care*

The standard of care not only denotes the degree of skill and knowledge possessed by the medical profession,⁵⁷ but also establishes the parameters of acceptable medical conduct.⁵⁸ While the medical

53. A survey of 1,200 dentists revealed that only 20% reported taking precautions against hepatitis. Moreover, 13% relied on masks and only six percent reported using gloves. Eighty percent of all oral surgeons surveyed reported wearing gloves and taking other precautions during most procedures. See Feldman & Schiff, *supra* note 26, at 1228; *Infection in Dentists*, *supra* note 26 at 732; Smith, *supra* note 10, at 204-05; Watkins, *supra* note 42, at 9 & 12.

It is a well established standard of care, however, for dentists who are known carriers to wear gloves. In fact, local health authorities usually mandate the precaution in such circumstances. See Goodman, Ahtone & Finton, *Hepatitis B. Transmission from Dental Personnel to Patients: Unfinished Business*, 96 ANNALS OF INTERNAL MED. 119 (1982); Hadler, *supra* note 28, at 138.

54. See *Report of Councils*, *supra* note 39, at 157. See also *supra* note 51.

55. See *supra* note 51. See also Hadler, *supra* note 28, at 138.

56. Other theories also may provide the basis for a medical malpractice claim. These theories include, breach of contract or warranty, abandonment, assault and battery, false imprisonment, wrongful commitment, and abuse of process. Negligence, informed consent and *res ipsa loquitur*, however, provide the most frequent basis for malpractice suits. See 2 D. LOUISELL & H. WILLIAMS, *MEDICAL MALPRACTICE* §§ 502-04 (1973); Santar & Pataki, *Medical Malpractice: Causes of Action*, 51 OKLA. L. REV. 1311 (1980).

57. Negligence law requires the existence of some real or presumed standard against which courts may compare behavior. Ordinarily courts use the standard of the "reasonable man." That standard represents the minimum of acceptable conduct. Courts demand a higher standard, however, from individuals possessing special skill and knowledge. The rationale for this additional requirement is the public's expectations and reliance. Thus, courts hold physicians, surgeons and dentists to a degree of care ordinarily possessed by competent men in their field. See, e.g., Pike v. Honsinger, 155 N.Y. 201, 49 N.E. 760 (1898). See generally W. PROSSER, *LAW OF TORTS* § 32 (4th ed. 1971); McCoid, *The Care Required of Medical Practitioners*, 12 VAND. L. REV. 549 (1959).

58. The standards governing the duty of skill and care of physicians fully apply to dentists. See *McTyeire v. McGaughy*, 222 Ala. 100, 130 So. 784 (1930); *Black v. Bearden*, 167 Ark. 455, 268 S.W. 27 (1925); *Hurley v. Johnston*, 143 Conn. 364, 122 A.2d 732 (1956); *Tanner v. Sanders*, 247 Ky. 90, 56 S.W.2d 718 (1933); *Vigneault v. Dr. Hewson Dental Co.*, 300 Mass. 223, 15 N.E.2d 185 (1938); *Newport v. Hyde*, 244 Miss. 870, 147 So.2d 113 (1962); *Grandy v. Merchant*, 127 Neb.

community generally sets these standards,⁵⁹ the courts define the parameters and determine to which physicians the standards apply.

The earliest standard courts enunciated in the United States was the strict locality rule,⁶⁰ which required the physician and surgeon to exercise that degree of skill and knowledge ordinarily possessed by others of the same locality.⁶¹ The disparity between the overall educational opportunities available in the large cities and those available in the smaller towns provide the basis for the rule.⁶²

Courts soon objected to the strict locality rule because small town physicians became immune from suit by adhering to a lower standard of care⁶³ and because the conspiracy of silence precluded testimony.⁶⁴

696, 256 N.W. 636 (1934); *Dolan v. O'Rourke*, 56 N.D. 416, 217 N.W. 666 (1928); *Hill v. Parker*, 12 Wash. 2d 517, 122 P.2d 476 (1942).

59. See *infra* note 74 and accompanying text.

60. One of the earliest cases was *Small v. Howard*, 128 Mass. 131 (1880). The plaintiff consulted the defendant, a general practitioner in a small town of 2500, for treatment of a severe wound that required a considerable degree of surgical skill. The court stated that it was common knowledge that a physician from a small country village did not have frequent opportunities to perform difficult operations. Therefore, the court could not hold him to the same standard as a physician in a large city. The court held that the level of skill and knowledge ordinarily possessed in the locality in which the defendant practiced governed his conduct. *Id.* at 133. See also *Marchlewski v. Casella*, 141 Conn. 377, 106 A.2d 466 (1954); *Smothers v. Hank*, 34 Iowa 286 (1972); *Tefft v. Wilcox*, 6 Kan. 46 (1870); *Hathorn v. Richmond*, 458 Vt. 557 (1876).

61. See cases cited *supra* note 60. England never adopted the locality rule. Commentators suggest that this disparity results from the difference in the size of the two countries. See *Waltz, The Rise and Gradual Fall of the Locality Rule in Medical Malpractice Litigation*, 18 DE PAUL L. REV. 408, 410 (1969).

62. Courts developed the rule to protect the rural and small town practitioner, whom the public perceived to be less adequately informed and equipped than those physicians from urban areas. According to the court in *Tefft v. Wilcox*, 6 Kan. 46 (1870):

In the smaller towns and country, those who practice medicine and surgery, though often possessing a thorough theoretical knowledge of the highest elements of the profession, do not enjoy so great opportunities of daily observation and practical operations, where the elementary studies are brought into every day use, as those who reside in the metropolitan towns, and though just as well informed in the elements and literature of their profession, they should not be expected to exercise that high degree of skill and practical knowledge possessed by those having greater facilities for performing and witnessing operations, and who are, or may be constantly observing the various accidents and forms of disease.

Id. at 63-64.

63. See *Waltz, supra* note 61, at 411. ("[h]e could be treating bone fractures with grape leaves and yet remain beyond the criticism of more enlightened practitioners from other communities.") *Id.* For a general criticism of the locality rule, see *Shilkret v. Annapolis Emergency Hospital Ass'n*, 276 Md. 187, 349 A.2d 245 (1945); *Brun v. Belinkoff*, 354 Mass. 102, 235 N.E.2d 793 (1968).

64. The conspiracy of silence refers to a situation in which experts will not testify against other members of their profession. In many instances, it effectively precludes the plaintiff from

A third criticism, however, finally influenced a shift towards a more uniform standard. Technological advances in society, such as increased mobility, caused a narrowing of the disparity in medical opportunities between rural and urban doctors. Therefore, these advances obviated the need for different standards in different communities.⁶⁵

Notwithstanding the strong trend to abrogate the strict locality rule, a few jurisdictions retain it for two reasons.⁶⁶ First, courts assert that while the medical profession should strive for a national standard of care, courts should refrain from imposing the standard.⁶⁷ Second, because the locality rule became well entrenched in the existing malpractice law, a change in a fundamental principle falls within the domain of the legislature and not the courts.⁶⁸

This perceived attitudinal change failed to signal the complete abandonment of the locality rule. The majority of jurisdictions adopted a modified locality rule rather than a national standard per se.⁶⁹ The

acquiring the necessary expert testimony. See W. PROSSER, *LAW OF TORTS* § 32 (4th ed. 1971). Physicians are even more reluctant to testify against a fellow medical professional in a small community. Since the strict locality rule applied only to experts from the same community, it made finding an expert an often insurmountable burden for the plaintiff. See Comment, *Medical Malpractice—The "Locality Rule" and the "Conspiracy of Silence,"* 22 SANTA CLARA L. REV. 810, 810-13 (1970).

65. Courts cite as factors vastly superior post-graduate training, the impact of modern communication and transportation, the proliferation of medical literature, frequent seminars and various other continuing educational classes, availability of modern clinical facilities, and nationalization of medical school curricula. See, e.g., *Blair v. Eblen*, 461 S.W.2d 370 (Ky. 1970); *Pederson v. Dumouchel*, 72 Wash. 2d 73, 431 P.2d 973 (1967); *Shier v. Freedman*, 58 Wis. 2d 269, 206 N.W.2d 166 (1973).

66. See, e.g., *Gambill v. Stroud*, 258 Ark. 766, 531 S.W.2d 945 (1976). See also *infra* notes 72-73 and accompanying text.

67. The court in *Gambill v. Stroud*, 258 Ark. 766, 531 S.W.2d 945 (1976) stated that courts should not judicially impose a standard of care. The court did not accept the nationalized nature of medicine and did not agree that a national standard of care was applicable. The court argued that if the medical profession adopted a "national standard," it would be irrelevant that the court applied the "locality rule" because the standard adopted in the locality would be the same adhered to nationally. *Id.* at 770, 531 S.W.2d at 948. The court also stated that it remained unconvinced that small town doctors had the same opportunities as doctors from urban areas. The court cited as reasons the demanding practice of small town physicians, which makes it difficult for them to attend seminars and regional medical meetings, and the small town doctor's lack of continued exposure to those who have been trained or have developed expertise in the use of new skills. *Id.* at 769-70, 534 S.W.2d at 948.

68. *Id.* at 770-A, 531 S.W.2d at 949.

69. See *infra* notes 71-73 and accompanying text. The modified locality rule applies only to general practitioners. Courts hold specialists to a "national standard." See, e.g., *Simpson v. Davis*, 219 Kan. 284, 549 P.2d 950 (1976). Cf. *Naccaroto v. Grob*, 384 Mich. 248, 180 N.W.2d 788 (1970) (court adopted a per se national standard test).

most common formulations require physicians to exercise that degree of care possessed by others in similar localities,⁷⁰ the same or similar communities,⁷¹ and similar and readily accessible communities.⁷²

No matter which rule a jurisdiction adopts, courts generally agree that the medical profession must establish the standards governing medical conduct.⁷³ The Washington Supreme Court in *Helling v. Carey*,⁷⁴ however, held that adherence to community standards does not insulate a physician from liability.⁷⁵ The court stated that the proper standard of care is that which reasonable prudence dictates in light of the skill and knowledge possessed by the profession.⁷⁶ Subsequent cases failed to follow *Helling*.⁷⁷ As in any other negligence claim, all

70. See, e.g., *Sinz v. Owens*, 33 Cal. 2d 749, 205 P.2d 3 (1949) (same "locality" or "vicinity"); *McGulpin v. Bessmer*, 241 Iowa 1119, 43 N.W.2d 121 (1950) (like "localities"); *Mecham v. McLeay*, 193 Neb. 457, 227 N.W.2d 829 (1975) (similar "community").

71. See, e.g., *Karrigan v. Nazareth Convent & Academy, Inc.*, 212 Kan. 44, 510 P.2d 190 (1973) (community where he practices or similar community); *Runyon v. Reed*, 510 P.2d 943 (Okla. 1973) (same or similar communities); *Incollingo v. Ewing*, 444 Pa. 263, 282 A.2d 206 (1971) (same or similar locality or community).

72. Courts base this information on the idea that if a small rural community lies a short distance from an urban area, its physicians have the same access to information and further training as their city counterparts do. See, e.g., *Pederson v. Dumouchel*, 72 Wash. 73, 431 P.2d 973 (1967). The court stated that the "standard of care is that established in an area coextensive with the medical and professional means available in those centers that are readily accessible for appropriate treatment of patient." *Id.* at 79, 431 P.2d at 978.

73. No matter which formulation a jurisdiction adopts, the locality rule or some modification thereof, the custom of the reasonable medical practitioner governs the scope of acceptable behavior. See, e.g., *Holtzman v. Hoy*, 118 Ill. 534, 8 N.E. 832 (1886); *Downer v. Veilleux*, 322 A.2d 82 (Maine 1974). A custom may be inherently unacceptable, however, because of changing methods and knowledge or because of unreasonableness. See, e.g., *Darling v. Charleston Community Mem. Hosp.*, 33 Ill. 2d 326, 211 N.E.2d 253 (1965), *cert. denied*, 383 U.S. 946 (1966).

74. 83 Wash. 2d 514, 519 P.2d 981 (1974). A 32 year old patient lost her peripheral vision because of undiagnosed glaucoma. The doctor did not detect this condition because the standard practice of ophthalmologists did not include a routine test for the disease until the patient was over forty.

75. The court held the ophthalmologist liable for damages to the patient's eye. In so holding the court stated:

In most cases reasonable prudence is in fact common prudence; but strictly it is never its measure; a whole calling may have unduly lagged in the adoption of new and available devices. It may never set its own test no matter how persuasive its usages. Courts must in the end say what is required; there are precautions so imperative that even their universal disregard will not excuse their omission.

Id. at 519, 519 P.2d at 983, (citing *The T.J. Hooper*, 60 F.2d 737, 740 (2d Cir. 1932)).

76. The court stated that reasonable prudence dictates the administration of glaucoma tests to all patients. Such tests are simple and inexpensive, and the benefits of employing them far outweighs the burden placed on physicians. *Id.* at 518, 519 P.2d at 983.

77. This case failed to foster any line of progeny, and the Washington state legislature at-

jurisdictions require the plaintiff to prove proximate cause.⁷⁸

B. *Informed consent*

Judge Cardozo in *Schlendorff v. Society of New York Hospital*⁷⁹ provided the foundation of modern informed consent doctrine when he said that "[e]very human being of adult years and sound mind has the right to determine what shall be done with his own body. . . ."⁸⁰ Generally, consent requires that the patient receive all relevant information concerning the risks and possible alternatives of a proposed procedure.⁸¹ If the patient lacks knowledge and one of the unfortunate risks

tempted to overrule it. The legislature enacted WASH. REV. CODE ANN. § 4.24.290 (West Supp. 1983-84), which states in pertinent part:

4.24.290 Action for damages based on professional negligence of hospitals or members of healing arts—Standard of proof—Evidence—Exception . . . the plaintiff in order to prevail shall be required to prove by a preponderance of the evidence that the defendant or defendants failed to exercise that degree of skill, care and learning *possessed by other persons in the same profession* and that as a proximate result of such failure the plaintiff suffered damages, but in no event shall the provisions of this section apply to an action based on the failure to obtain the informed consent of a patient. [Added by Laws 1st Ex Sess 1975 ch. 35 § 1.]

Id. (emphasis added). This attempt, however, failed. In the later case of *Gates v. Jensen*, 92 Wash. 2d 246, 595 P.2d 919 (1979), the court interpreted "possessed" as that degree of knowledge "possessed" albeit not currently exercised by the profession. The court stated that ophthalmologists possess the skill and learning necessary to administer the glaucoma test. If the test's benefits outweigh the burden on the profession, that the test is not an adopted standard of care is immaterial. *Id.* at 242, 595 P.2d at 924. See generally Note, *Physicians and Surgeons-Malpractice-Court Disregard for the Standard of the Profession-The Legislative Response-Helling v. Carey*, 51 WASH. L. REV. 167 (1975).

78. To satisfy the element of proximate cause the plaintiff must prove that the harm suffered resulted directly from the deviation from the accepted standard of care. See W. PROSSER, LAW OF TORTS § 41 (4th ed. 1971); Danner & Sagall, *Medicolegal Causation: A Source of Professional Misunderstanding*, 3 AM. J. L. & MED. 303 (1977).

79. 211 N.Y. 125, 105 N.E. 92 (1914).

80. *Id.* at 129, 105 N.E.2d at 93.

81. For a discussion of the case law, see *infra* notes 84-105 and accompanying text. See generally Alsobrook, *Informed Consent: A Right to Know*, 40 INS. COUNS. J. 580 (1973) (discussing history, development, and content of the informed consent doctrine); Comment, *Informed Consent: A Malpractice Headache*, 47 CHI.-KENT L. REV. 242 (1970) (analysing the physician's legal duty under the informed consent doctrine).

Many states have enacted statutes dealing with informed consent. One type of statute is evidentiary in nature, listing the information physicians must disclose concerning the proposed course of treatment. Further, these statutes generally require that all patients or their guardians sign a consent form. If the doctor meets these requirements, courts treat this as prima facie evidence that the doctor provided informed consent. See, e.g., Iowa Code Ann. § 147.137 (West Supp. 1983-84). The Department of Health Education and Welfare also proposed some guidelines for disclosure. Victor, *Informed Consent*, 27 MED. TRIAL TECH. Q. 138, 162 (1981).

The second group of statutes uses the "cause of action" approach. These statutes list the ele-

results from treatment, the physician may be liable for the consequent injuries.⁸²

The informed consent requirement forced courts to develop standards governing the scope of disclosure. Currently, courts apply one of two competing formulations: the older rule or the "medical" standard⁸³ and the modern trend or the "material risk" standard.⁸⁴

Pursuant to the "medical standard" doctrine, courts defer to the judgment of the medical community.⁸⁵ The information that the reasonably prudent medical practitioner would disclose to a patient of ordinary understanding under the same or similar circumstances encompasses the scope of disclosure.⁸⁶ Because this scope depends on the standards of the medical community, expert testimony becomes essential to determine if the physician properly discharged his obligation.⁸⁷

ments necessary for a cause of action based on lack of informed consent. *See, e.g.*, ARIZ. REV. STAT. ANN. § 12-562(b) (West 1982). *See generally* Victor, *supra*, at 159-61.

82. This example represents the negligence formulation of the informed consent doctrine. The physician-patient relationship is a fiduciary one because the physician occupies a place of confidence and trust. *E.g.*, *Hammonds v. Aetna Cas. & Sur. Co.*, 237 F. Supp. 96 (N.D. Ohio 1965); *Adams v. Ison*, 249 S.W.2d 791 (Ky. Ct. App. 1952); *Allison v. Blewett*, 348 S.W.2d 182 (Tex. Civ. App. 1961). Thus, the physician has an obligation to disclose to his patient information concerning the proposed treatment. For discussion of this disclosure, see *infra* notes 84-100 and accompanying text. The physician is negligent of this obligation is not discharged and an undisclosed risk results from treatment. *See* Beloud, *The Growing Importance of Informed Consent*, 8 LINCOLN L. REV. 115 (1973); Comment, *Informed Consent as a Theory of Medical Liability*, 1970 WIS. L. REV. 879.

Another cause of action falls within the informed consent doctrine—the unauthorized treatment or the "battery" formulation. This situation arises when the patient assents to one operation and the physician performs another. *See, e.g.* *Kennedy v. Parrot*, 243 N.C. 355, 90 S.E.2d 754 (1956) (patient entered hospital to have her appendix removed but physician removed ovarian cysts instead). *See generally* Note, *Advise and Consent in Medicine: A Look at the Doctrine of Informed Consent*, 16 N.Y. L. F. 863 (1970) (discussing the origin of informed consent battery actions). The battery formulation lies beyond the scope of this Note.

83. *See infra* notes 86-91 and accompanying text.

84. *See infra* notes 92-101 and accompanying text.

85. *See infra* note 87 and accompanying text.

86. This example illustrates the earliest physician disclosure requirement. Generally, courts provided two rationales for this rule. First, the complexity of medical care puts the medical professions in the best position to assess what risks merit disclosure. Second, the rule provides a certainty to the physician concerning what he must disclose. *See, e.g.*, *Natanson v. Kline*, 186 Kan. 393, 409, 350 P.2d 1093, 1106 ("[t]he duty of a physician to disclose . . . is limited to those disclosures which a reasonable medical practitioner would make in the same or similar circumstance").

87. Courts require expert testimony to establish the proper scope of disclosure within the medical community. Courts must refer to the law of the state in question to determine whether it

The medical standard doctrine has many critics. Courts state that the conspiracy of silence renders the rule ineffective.⁸⁸ Further, courts assert that patients rely on their physicians for aid in making the correct decision. Hence, the doctrine of informed consent demands that doctors apprise their patients of all material risks.⁸⁹ In response to these arguments, courts developed the "material risk" standard.⁹⁰

According to this test, the standards of the medical community do not delineate the scope of disclosure. Rather, the patient's right to self-determination forms the basis for this test.⁹¹ The test requires the physician to disclose to the patient all the facts that are material to the patient's ability to make an informed, intelligent decision.⁹² The materiality of a risk depends on whether a reasonable person would attach significance to the risk, if disclosed, in deciding whether to opt for the proposed therapy.⁹³ Courts consistently require three types of disclosures. Patients need to know the inherent risks and potential hazards

adopts a "locality" or "national" standard of care for its physicians. *See supra* notes 60-79 and accompanying text. *See generally* *Martin v. Bralliar*, 36 Colo. App. 254, 540 P.2d 1118 (1975) (plaintiff has burden to prove nondisclosure of certain risk; once established, burden shifts to physician to produce expert testimony that he acted within the standard of care); *Hunter v. Brown*, 4 Wash. App. 899, 484 P.2d 1162 (1971) (an exception to the expert testimony rule when the disclosure becomes so obvious that the layman knows that the physician did not adhere to professional standards).

88. Because expert testimony is crucial to a plaintiff's claim, the conspiracy of silence can thwart the plaintiff's ability to bring a successful suit. *See supra* note 64. In fact, failure to produce expert testimony often results in either a dismissal or directed verdict for the plaintiff. *See, e.g., Green v. Hussey*, 127 Ill. App. 2d 174, 262 N.E.2d 156 (1970); *Govin v. Hunter*, 374 P.2d 421 (Wyo. 1962).

89. This appraisal becomes very important in light of the disparity of medical knowledge between the physician and the average patient. The patient has no way of knowing if his doctor disclosed all the risks to him. He must rely on his physician. *See Cobbs v. Grant*, 8 Cal. 3d 229, 502 P.2d 1, 104 Cal. Rptr. 505 (1972); *Sand v. Hardy*, 281 Md. 432, 379 A.2d 1014 (1977). *See also* Comment, *Recent Uses and Misuses of the Informed Consent Doctrine*, 10 FORUM 383 (1974) (criticizing the medical standard model of informed consent).

90. *See infra* notes 92-101 and accompanying text.

91. Courts argue that the physician should not decide what the patient needs to know. That determination rests with the patient because he must live with the ill effects, if any, that result from surgery. *See, e.g., Canterbury v. Spence*, 464 F.2d 772 (D.C. Cir. 1972), *cert. denied*, 409 U.S. 1064 (1973); *Cobbs v. Grant*, 8 Cal. 3d 229, 502 P.2d 1, 104 Cal. Rptr. 505 (1972); *Goodwin v. Aetna Cas. & Sur. Co.*, 294 So.2d 618 (La. Ct. App. 1974); *Sard v. Hardy*, 281 Md. 432, 379 A.2d 1014 (1977); *Scaria v. St. Paul Fire & Marine Ins. Co.*, 68 Wis. 2d 1, 227 N.W.2d 647 (1975).

92. *See* cases cited *supra* note 92. *See also infra* note 94 and accompanying text.

93. *See* cases cited *supra* note 92. The court in *Canterbury v. Spence*, 464 F.2d 772 (D.C. Cir. 1972), *cert. denied*, 409 U.S. 1064 (1973) stated that ". . . all risks potentially affecting the decision must be unmasked. And to safeguard the patient's interest in achieving his own determination on treatment the law must itself set the standard for disclosure." *Id.* at 787. *See generally* *Waltz &*

of proposed treatment, the alternatives to proposed treatment, and the likely results if the patient remains untreated.⁹⁴

Though generally stated in terms of full disclosure, even the "material risk" standard is not absolute. Courts recognize nondisclosure for many reasons, including therapeutic grounds,⁹⁵ incapacity of the patient, remote risks inherent in common procedures, risks already known to the patient, risks not known to the physician, or the patient's desire to remain uninformed.⁹⁶

The modern material risk doctrine, however, has its critics. Some courts suggest that no test can distinguish a material from a nonmaterial risk.⁹⁷ This impasse suggests that courts should defer to the custom of the medical profession.⁹⁸ Other critics state that the patient's best interest and not the physician's need to protect himself from potential lawsuits should govern disclosure.⁹⁹ Finally, other courts assert that the

Sheuneman, *Informed Consent to Therapy*, 64 Nw. U.L. REV. 628, 630, 631 (1970) (articulating the "material risk" formulation).

94. Although courts consistently require three types of disclosure, they have yet to state consistently the point at which the risk becomes inherent to the proposed treatment. For instance, the court in *Cobbs v. Grant*, 8 Cal. 3d 229, 502 P.2d 1, 104 Cal. Rptr. 505 (1972) distinguished between common and complicated procedures. Complicated procedures require full disclosure of all risks, even the remote risks. Simple procedures, such as blood tests, do not require disclosure of risks with a low incidence. The court in *Mason v. Ellsworth*, 3 Wash. App. 298, 474 P.2d 909 (1970) did not distinguish between types of procedure. Rather, the court required disclosure for all treatments if the risk is significant. *Id.* at 313, 474 P.2d at 919.

95. Nondisclosure for therapeutic reasons refers to a physician's discretion to withhold certain information, if, in his judgment, disclosure of such facts would hinder his patient's recovery. *See cases cited supra* note 92.

96. *See cases cited supra* note 92. All courts agree that in an emergency situation they will waive the informed consent requirement. For example, an emergency occurs when the patient is unconscious.

97. *See, e.g., Butler v. Berkeley*, 25 N.C. App. 325, 213 S.E.2d 571 (1975). *See also infra* note 99 and accompanying text.

98. Because there is no sharp distinction between a significant and an insignificant risk, a rule that requires sharp delineation becomes imprecise. If, however, courts defer to the judgment of the medical profession about the reasonableness of disclosure, a consistent standard will develop. *See, e.g., ZeBarth v. Swedish Hospital Medical Center*, 81 Wash. 2d 12, 499 P.2d 1 (1972).

99. The court in *Butler v. Berkeley*, 25 N.C. App. 325, 213 S.E.2d 571 (1975) stated:

To adopt the minority rule of *Canterbury* would result in requiring every doctor to spend much unnecessary time in going over with every patient every possible effect of any proposed treatment. The doctor should not have to practice his profession with the knowledge that every consultation with every patient with respect to future treatment contains a potential lawsuit and his advice and suggestions must necessarily be phrased with the possible defense of a lawsuit in mind. This would necessarily result in the doctor's inability to give the best interest of his patient primary importance.

Id. at 342, 213 S.E.2d at 581-82.

material risk standard places too severe a burden on the physician.¹⁰⁰

Under either doctrine the patient must satisfy the element of proximate cause by proving that but for the nondisclosure, the patient would not have given his consent.¹⁰¹ In most jurisdictions, the patient must satisfy the objective test that a reasonable man would have not consented to the procedure if he knew of the undisclosed risk.¹⁰² Some jurisdictions that adopt the material risk test employ a subjective standard¹⁰³ requiring that the particular patient would have foregone the procedure if he knew of the risks.¹⁰⁴

C. *Res Ipsa Loquitur*

When a plaintiff asserts a claim of negligence against his physician, courts require expert testimony to prove that the physician deviated from acceptable medical practice.¹⁰⁵ This prerequisite represents an undue burden for the plaintiff when the defendant controls the cause of

100. See generally Victor, *supra* note 82 at 144-49.

101. See *Shetter v. Rochelle*, 2 Ariz. App. 358, 409 P.2d 74 (1965). According to the Shetter court:

Under malpractice theories, there would be no damage proximately resulting from the failure to disclose unless the plaintiff would not have had the operation if the disclosures had been made.

. . . This is an application of the fundamental 'but for' rule, which comes as close to being of the essence of the proximate cause doctrine as any concept.

Id. at 367, 409 P.2d at 83.

102. See, e.g., *Canterbury v. Spence*, 464 F.2d 772, 790 (D.C. Cir. 1972). See also Ozzi, *Survey of the Law of Informed Consent in Physician-Patient Relationships*, LEGAL MED. 117 (C. Wecht ed. 1982). The author stated in support of the objective standard:

It is questionable whether a patient can honestly say that had all the risks been disclosed to him before treatment he would have declined. Generally speaking it is safe to speculate that when a patient selects a physician and places confidence in him, the patient will submit to those procedures recommended by the doctor. But at trial the patient-plaintiff will certainly testify that 'had I known of the risk, I never would have consented.' The jury may well agree.

Id. at 120-21.

103. See, e.g., *Pulin v. Zartman*, 542 P.2d 251 (Alaska 1975); *Wilkinson v. Vesey*, 110 R.I. 606, 295 A.2d 676 (1972).

104. See cases cited *supra* note 104.

105. Plaintiffs base negligence claims on a deviation from the accepted standard of care. See *supra* notes 57-79 and accompanying text. Thus, courts require expert testimony to determine the standard and the behavior within the scope of negligence. See, e.g., *Brown v. Colm*, 11 Cal. 3d 639, 522 P.2d 688, 114 Cal. Rptr. 128 (1974); *Simpson v. Davis*, 219 Kan. 584, 549 P.2d 950 (1976); *Jarboe v. Harting*, 397 S.W.2d 775 (Ky. 1965). See also W. MORRIS, DENTAL LITIGATION 60 (2d ed. 1977) (arguing that because the jury consists of laymen, they are not ordinarily competent without the aid of expert testimony to determine whether the dentist exercised the required skill in treating a patient).

the harm.¹⁰⁶ In such instances, plaintiffs invoke *res ipsa loquitur*.¹⁰⁷

It is not sufficient that negligence occurs. A plaintiff must satisfy the three basic elements of a *res ipsa loquitur* claim. The plaintiff must prove first, that this type of accident does not occur in the absence of negligence; second, that an agency or instrumentality within the defendant's exclusive control caused the injuries; and third, that the plaintiff did not contribute to the injury.¹⁰⁸

The first element is the most difficult to satisfy. Courts refuse to apply *res ipsa loquitur* to medical malpractice cases unless, from common experience and comprehension, the layperson can deduce that the injury that resulted from the treatment ordinarily would not occur.¹⁰⁹ The matter under investigation must be so simple and the result so wrong that a juror can infer negligence without the aid of an expert.¹¹⁰

Pursuant to this requirement, courts distinguish between diagnosis and scientific treatment to which *res ipsa* is inapplicable and cases in which some act or omission occurs that does not require expert testimony.¹¹¹ For instance, courts do not apply *res ipsa loquitur* to cases involving mistaken diagnosis,¹¹² unsuccessful treatment,¹¹³ wrong

106. See generally Comment, *Res Ipsa Loquitur: A Case for Flexibility in Medical Malpractice*, 16 WAYNE L. REV. 1136 (1970) (discussing the general principles underlying *res ipsa loquitur*).

107. More affectionately known as "somebody obviously goofed," R. MORRIS & A. MORITZ, DOCTOR AND PATIENT AND THE LAW 403 (5th ed. 1971), the doctrine of *res ipsa loquitur* originated in 1863 in the English case of *Byrne v. Boadle*. 159 Eng. Rep. 299 (1863). In that case, a barrel inexplicably fell from a loft and injured a pedestrian. The court held that the barrel falling under these circumstances presented *prima facie* evidence of negligence. Because the plaintiff could not ascertain the negligence, the court decided not to place that unfair burden on him. As a result, the burden shifted to the defendant to prove the existence of any facts inconsistent with negligence. *Id.* at 301.

108. See, e.g., *Spannaus v. Otolaryngology Clinic*, 308 Minn. 334, 242 N.W.2d 594 (1976); *Horner v. Northern Pac. Beneficial Ass'n Hospitals, Inc.* 62 Wash. 2d 351, 382 P.2d 518 (1963).

109. The plaintiff must show more than a mere rarity. See, e.g., *Perin v. Hayne*, 210 N.W.2d 609 (Iowa 1973). The jury must be able to infer that, more likely than not, the injury resulted from the defendant's negligence. See, e.g., *Montana Deaconess Hospital v. Gratton*, 169 Mont. 185, 545 P.2d 670 (1976). See also *supra* note 109 and accompanying text.

110. See, e.g., *Brown v. Keaveny*, 326 F.2d 660 (D.C. Cir. 1963). The court stated, "[t]he thing does not speak for itself unless a layman can say as a matter of common knowledge that the consequences of the professional treatment are not those which ordinarily occur if due care has been exercised." *Id.* at 661. See also *Lambert v. Soltis*, 422 Pa. 304, 221 A.2d 173 (1966).

111. Scientific treatment and diagnosis cases fall outside the common knowledge and experience of laymen. Courts require expert testimony and refuse to apply *res ipsa loquitur*. See, e.g., *Whetstine v. Moravec*, 228 Iowa 352, 291 N.W. 425 (1940). See Arthur, *Res Ipsa Loquitur as Applied in Dental Cases*, 15 ROCKY MOUNT. L. REV. 220 (1943). See also *infra* notes 113-16 and accompanying text.

112. See, e.g., *Carroway v. Graham*, 218 Ala. 453, 118 So. 807 (1928) (surgery for presumed

choice of treatment,¹¹⁴ or injuries resulting from a known risk of treatment.¹¹⁵ On the other hand, courts apply *res ipsa loquitur* to cases involving foreign objects left inside a patient after a surgical procedure,¹¹⁶ injury to a healthy part of the body unrelated to the part undergoing medical treatment,¹¹⁷ surgery on or removal of the wrong part of the body,¹¹⁸ and extracted teeth mistakenly dropped into the patient's windpipe.¹¹⁹ Courts caution, however, that even if *res ipsa loquitur* applies, it creates only a rebuttable presumption of negligence.¹²⁰

Some courts criticize the application of *res ipsa loquitur* to malpractice claims because they recognize the purely theoretical nature of the rebuttable presumption. These courts assert that *res ipsa loquitur* often results in the liability of a physician without fault because of the occur-

appendicitis); *Boyce v. Brown*, 51 Ariz. 416, 77 P.2d 455 (1938) ("fixation screw" in ankle bone mistaken for sprain); *Patterson v. Marcus*, 203 Cal. 550, 265 P. 222 (1928) (ovarian cyst mistaken for pregnancy).

113. *See, e.g.*, *Adams v. Boyce*, 37 Cal. App. 2d 541, 99 P.2d 1044 (1940) (failure to remove foreign bodies from eye); *Houghton v. Dickson*, 29 Cal. App. 321, 155 P. 128 (1916) (failure to correct fracture); *Bettigole v. Diener*, 210 Md. 537, 124 A.2d 265 (1956) (facial paralysis following mastoidectomy).

114. *See, e.g.*, *Lenn v. Pierson*, 37 Cal. App. 171, 173 P. 763 (1918) (use of silk instead of catgut sutures in abdominal operation); *Goode v. Lothrop*, 266 Mass. 518, 165 N.E. 688 (1929) (plastic surgery on nose); *Loudon v. Scott*, 58 Mont., 645, 194 P. 488 (1920) (general anesthesia for reduction of fracture).

115. *See, e.g.*, *Engelking v. Carlson*, 13 Cal. 2d 216, 88 P.2d 695 (1939) (injury to peroneal nerve at time of knee surgery); *Prewitt v. Higgins*, 231 Ky. 678, 22 S.W.2d 115 (1929) (infection of arm following injection of drug); *Quinley v. Cocke*, 183 Tenn. 428, 192 S.W.2d 992 (1946) (fractures at time of electroshock).

116. *See, e.g.*, *Armstrong v. Wallace*, 6 Cal. App. 2d 429, 47 P.2d 740 (1935) (sponge left in abdomen at time of Caesarean section); *Funk v. Bonham*, 204 Ind. 170, 183 N.E. 312 (1932) (sponge left in abdomen at time of pelvic surgery); *Mitchell v. Saunders*, 219 N.C. 178, 13 S.E.2d 242 (1941) (sponge left in operative wound in thigh); *Davis v. Kerr*, 239 Pa. 351, 86 A.2d 1007 (1913) (gauze left at time of surgery for tuberculosis peritonitis).

117. *See, e.g.*, *Vergeldt v. Hartzell*, 1 F.2d 633 (8th Cir. 1924) (roof of patient's mouth penetrated with dental drill); *Dohr v. Smith*, 104 So. 2d 29 (Fla. 1958) (dentist allowed bridgework broken during surgery to fall into and injure the bronchus); *Higdon v. Carlebach*, 348 Mich. 363, 83 N.W.2d 296 (1957) (tongue cut by dentist's drill).

118. *See, e.g.*, *Thomsen v. Burgeson*, 26 Cal. App. 2d 235, 79 P.2d 136 (1938) (wrong tooth removed).

119. *See, e.g.*, *Nelson v. Painless Parker*, 104 Cal. App. 770, 286 P. 1078 (1930); *Whetstine v. Moravec*, 228 Iowa 352, 291 N.W. 425 (1940); *Meyer v. St. Paul-Mercury Indemn. Co.*, 61 So. 2d 901 (La. Ct. App. 1952).

120. *See, e.g.*, *Micek v. Weaver-Jackson Co.*, 12 Cal. App. 2d 19, 54 P.2d 768 (1936); *Vonault v. O'Rourke*, 97 Mont. 92, 33 P.2d 535 (1934); *White v. Hines*, 182 N.C. 275, 109 S.E. 31 (1921); *Nopson v. Wockner*, 40 Wash. 2d 645, 245 P.2d 1022 (1952). *See generally* W. PROSSER, LAW OF TORTS § 40 (4th ed. 1971).

rence of some inexplicable event.¹²¹ At least one jurisdiction refuses to apply the doctrine to malpractice claims.¹²²

IV. DENTISTS' LIABILITY FOR TRANSMITTING HEPATITIS TO THEIR PATIENTS

A. Negligence—a Deviation from the Standard of Care

The transmission of hepatitis from the dentist to his patient alone does not result in the imposition of liability. The plaintiff must also demonstrate that the dentist was negligent—that he deviated from accepted dental practices.¹²³ As discussed earlier, dentist-patient transmission of HBV generally occurs when microscopic amounts of blood from the dentist's hand mixes with the patient's saliva in the oral cavity.¹²⁴ In fact, no documented cases cite improper sterilization procedures as the cause of transmission.¹²⁵ Further, while studies demonstrate that the use of barriers such as gloves and masks greatly decrease the incidence of this mode of transmission, only a small fraction of dentists employ such measures in their treatment of patients.¹²⁶ A majority of oral surgeons, however, do use gloves during surgical procedures.¹²⁷ Because of this divergence in the adopted standard of care courts will treat general dentists and oral surgeons differently for purposes of liability analysis.

For instance, because the established standard of care for oral surgeons includes wearing gloves,¹²⁸ it is very likely that a deviation from this standard (not wearing gloves) is likely to result in liability if the patient contracts HBV.¹²⁹ The patient must prove that he contracted the disease from the oral surgeon and that the lack of gloves proximately caused the transmission.¹³⁰ Liability analysis is the same for

121. See, e.g., *Washington v. City of Columbus*, 136 Ga. App. 682, 222 S.E.2d 583 (1975).

122. See, e.g., *id.* (courts still allow the doctrine to be used against nonphysicians).

123. For a discussion of the negligence doctrine and the deviation from the accepted standard of care requirement, see *supra* notes 57-79 and accompanying text. See also *infra* notes 125-35 and accompanying text.

124. See *supra* notes 23-28 and accompanying text.

125. *Id.*

126. See *supra* notes 53-55 and accompanying text.

127. See *supra* note 53 and accompanying text.

128. *Id.*

129. *Id.* See *supra* notes 57-79 and accompanying text.

130. See *supra* note 79 and accompanying text. For purposes of a discussion of oral surgeons,

both asymptomatic and known carriers.¹³¹

A general dentist, however, is subject to a different analysis. The standard of the dental profession does not require that general dentists wear gloves.¹³² If the dentist nicks his finger while not wearing gloves, and subsequently the patient develops hepatitis, courts will not hold the dentist liable.¹³³ The dentist did not deviate from the existing dental standard.¹³⁴

The knowledge of the dental profession obscures this analysis. Although the ADA only recommends gloves during surgical procedures,¹³⁵ most medical literature recommends gloves anytime a dentist's hand enters the patient's oral cavity.¹³⁶ Thus, a dentist's failure to wear gloves deviates from the standard of care possessed, albeit not exercised, by the dental profession.¹³⁷

Public policy weighs in favor of such a position.¹³⁸ First, the dental profession's current standard is obsolete in light of the available research concerning the HBV incidence rate among dentists and the frequency of dentist-patient transmissions.¹³⁹ Second, the risks and seriousness of transmitting HBV far outweigh the relative simplicity of wearing gloves.¹⁴⁰ Under this approach, no distinction between asymptomatic and known carriers exists.¹⁴¹ Only a jurisdiction that adopts a *Helling v. Carey*¹⁴² formulation of the standard of care, however, would accept this analysis.¹⁴³

the distinction between the "locality" and "national" standard is irrelevant. An oral surgeon is a specialist and a majority of courts hold them to a national standard of conduct. *See supra* note 70.

131. Because the profession firmly established the standard of care, whether the oral surgeon knew he carried the virus becomes irrelevant. If he deviates from the accepted standard of care and harm results, he can be held liable. *See supra* notes 57-79 and accompanying text.

132. *See supra* notes 53-55 and accompanying text.

133. *See supra* notes 56-79 and accompanying text.

134. *See supra* notes 57-79 and accompanying text.

135. *See supra* note 54 and accompanying text.

136. *See supra* notes 51-55 and accompanying text.

137. *Id.*

138. *See supra* notes 75-77 and accompanying text.

139. *See supra* notes 28-31 and accompanying text.

140. *See supra* notes 23-31 & 51 and accompanying text. *See also* text accompanying note 52.

141. Whether the dentist knew he was an asymptomatic carrier becomes irrelevant under this analysis. If the dentist did not adopt prudent behavior based on the skill and knowledge possessed by the profession, he would be liable especially because the benefits of taking such precaution far outweighed any perceived inconvenience. *See supra* notes 51 & 74-77 and accompanying text.

142. 83 Wash. 2d 514, 519 P.2d 981 (1974). *See supra* notes 74-79 and accompanying text.

143. *See supra* text accompanying note 78.

Unfortunately a majority of jurisdictions would not reach this result. A distinction exists, however, between asymptomatic and known carriers.¹⁴⁴ The dental profession requires dental carriers of HBV to use disposable masks and rubber gloves when working with patients.¹⁴⁵ If a known carrier transmits the disease while not using such precautions he deviates from acceptable dental practice¹⁴⁶ and he would be liable.¹⁴⁷

This question lacks clarity for known carriers who transmit the disease despite taking adequate precautions.¹⁴⁸ Courts probably would not impose liability in this situation.¹⁴⁹ First, a dentist is not a guarantor of good results.¹⁵⁰ Second, the dentist adhered to the accepted standard of care.¹⁵¹ Public policy also weighs in favor of nonliability.¹⁵²

144. *See infra* text accompanying note 146.

145. *See supra* note 53.

146. *Id.*

147. A clear deviation from an established standard of care creates liability. *See supra* notes 57-79 and accompanying text.

148. This possibility exists because gloves with only microscopic leaks can allow enough infected blood to pass through to transmit the disease to a patient. *See supra* note 52.

149. *See infra* text accompanying notes 151-53.

150. *See, e.g.,* *Lejeune v. United States Cas. Co.*, 227 F. Supp. 191, 194 (W.D. La. 1976); *Germann v. Matriss*, 55 N.J. 193, 203, 260 A.2d 825, 833 (1970); *Hotelling v. Walther*, 169 Or. 559, 562, 130 P.2d 944, 945 (1942).

151. That the dentist adhered to the accepted standard of care weighs against imposing liability. *See supra* notes 57-78 and accompanying text.

152. Public policy abhors liability without fault, except for strict liability offenses. *See W. PROSSER, LAW OF TORTS* § 75 (4th ed. 1971). *See also* *St. Luke's Hospital v. Schmaltz*, 188 Colo. 353, 534 P.2d 781 (1975). This case involved a plaintiff who sued a hospital when he contracted post-transfusion hepatitis. In holding the hospital nonliable, the court cited *COLO. REV. STAT.* § 13-22-104(1) (1973), which provides as follows:

The availability of scientific knowledge, skills and materials from the transplantation, injection, transfusion or transfer of human tissue, organs, blood or components thereof is important to the health and welfare of the people of this state. Equally important is the duty of those performing such services or providing such materials to exercise due care under the attending circumstances to the end that those receiving health care will benefit and adverse results therefrom will be minimized by the use of available and proven scientific safeguards. The imposition of legal liability without fault upon the persons and organizations engaged in such scientific procedures may inhibit the exercise of sound medical judgment and restrict the availability of important scientific knowledge, skills and materials. It is, therefore, the public policy of this state to promote the health and welfare of the people by emphasizing the importance of exercising due care, and by limiting the legal liability arising out of such scientific procedures to instances of negligence or willful misconduct.

Id. at 355-56, 534 P.2d at 782. Though liability will not result, state health officials would probably not allow such a dentist to continue his practice. *See Dentist Identified at Hepatitis Carrier*, *Los Angeles Times*, Sept. 25, 1975 at 25, col. 1; *Watkins, Viral Hepatitis B: A Special Problem in Pre-*

B. Informed Consent

The doctrine of informed consent enables a patient to hold a dentist liable for bad results even though he took all adequate precautions and was not negligent.¹⁵³ Because this doctrine rests on risk disclosure, the distinction between known and asymptomatic carriers becomes crucial.¹⁵⁴

Liability for known carriers is a virtual certainty under either the medical standard¹⁵⁵ or the material risk standard of informed consent.¹⁵⁶ The medical standard test asks whether a reasonably prudent carrier dentist would disclose the risks of hepatitis transmission to his patient.¹⁵⁷ All dentists in this position would disclose the risks of hepatitis transmission because the dental standards require such disclosure.¹⁵⁸ Also, all state health authorities faced with this issue require the dental carriers to inform their patients of their carrier status.¹⁵⁹

The material risk formulation questions whether the reasonably prudent man would consider the risk crucial when making his decision concerning proposed treatment.¹⁶⁰ Clearly, the possibility of contracting a severe disease would weigh heavily in the reasonable man's decisionmaking process. One argument that favors nonliability for such disclosure is that courts do not require disclosure of remote risks inherent in standard procedures.¹⁶¹ However, though the risk of contracting hepatitis, even from a known carrier, may be remote, it is not a risk inherent in standard procedures. Rather, the risk depends upon

vention, 6 J. AM. SOC'Y PREVENTATIVE DENTISTRY 9 (1976). See also *Must Hepatitis Carriers Stop Treating their Patients*, Med-World News, Dec. 15, 1975 at 37, col. 2.

153. An action in informed consent does not involve the question whether the defendant proceeded correctly and with adequate precautions. Rather, plaintiffs base this cause of action on the physician's duty to disclose certain facts about the proposed procedure. If the defendant does not disclose a risk that results from treatment, he may be liable. This finding depends on whether the undisclosed risk should have been disclosed. Whether a jurisdiction adopts a "material risk" or a "medical" standard governs the scope of disclosure. See *supra* notes 80-105 and accompanying text.

154. See *infra* text accompanying notes 157-72.

155. See *infra* text accompanying notes 158-60.

156. See *infra* text accompanying notes 161-63.

157. See *supra* notes 86-88 and accompanying text.

158. See *supra* note 53.

159. *Id.*

160. See *supra* notes 92-95 and accompanying text.

161. See *supra* note 96 and accompanying text.

the dentist's carrier status.¹⁶²

Under either formulation, the patient must prove proximate cause.¹⁶³ The patient must assert that if the dentist disclosed the risk of hepatitis transmission, he would have withheld consent.¹⁶⁴ Convincing a court that but for the nondisclosure the patient would have foregone a life-saving or crucial treatment is a difficult task.¹⁶⁵ Claims arising from dental care, however, eliminate this burden for the plaintiff because dental maladies do not generally threaten the patient's life. Also, because the risk of HBV transmission is not inherent in dental procedures, the patient could choose to use another, non-carrier, dentist. Hence, the patient is likely to satisfy both the subjective and the objective tests of proximate cause.¹⁶⁶

Asymptomatic carrier dentists pose a different problem because they lack a reason to warn their patients of the risk of hepatitis. Courts generally do not require disclosure of unknown risks.¹⁶⁷ Because dentists know that HBV presents an occupational hazard, however, courts may decide that dentists should know the risks of transmitting the disease.¹⁶⁸ The availability of a highly accurate serological test weighs in favor of this rationale¹⁶⁹ because a dentist can test himself periodically to determine whether he carries the HBV virus.¹⁷⁰ That routine serological testing is not currently a standard of the dental profession weighs against this position.¹⁷¹

C. *Res Ipsa Loquitur*

The *res ipsa loquitur* theory presents the most unlikely candidate for

162. A dentist who is not a carrier cannot transmit the disease. *See supra* notes 19-20 and accompanying text.

163. *See supra* notes 102-105 and accompanying text.

164. *Id.*

165. *See supra* note 103 and accompanying text.

166. *See supra* notes 102-105 and accompanying text. The subjective test poses a relatively easy burden. The plaintiff only asserts that he would have opted out of the treatment had he known of the risk of hepatitis. The objective test is generally more difficult to prove because the decision to withhold consent must be reasonable. Nevertheless, a plaintiff could easily convince a jury that, given a choice, the reasonable man would prefer a noncarrier to a carrier dentist.

167. *See supra* note 97 and accompanying text.

168. *See supra* notes 23-31 and accompanying text.

169. *See supra* notes 45-46 and accompanying text.

170. *Id.*

171. *See supra* notes 45-46 and accompanying text. In fact, the ADA does not recommend routine serological testing. *Id.*

a successful malpractice claim against a dentist who transmits hepatitis. For malpractice claims courts generally require that the injury be that type from which the layperson, drawing upon common knowledge and experience, infers negligence.¹⁷² Courts have held that idiopathic infections do not meet this test.¹⁷³

The common knowledge and experience of most laypersons does not include HBV. Courts require expert testimony to describe for the jury the mode of transmission, preventative measures, and the applicable dental standard of care.¹⁷⁴ In addition, *res ipsa loquitur* should not apply because the transmission can occur even when the dentist took all adequate precautions.¹⁷⁵

V. CONCLUSION

The mode of transmission of HBV puts dentists at an especially high risk of contracting the disease, and later, of transmitting it to unsuspecting patients.¹⁷⁶ Although a general dentist could reduce the risk by wearing gloves or using other preventative measures during all procedures, the profession currently does not require it.¹⁷⁷ Consequently, courts are not likely to hold dentists liable for transmitting the disease pursuant to a negligence theory, unless they adopt a *Helling v. Carey* analysis.¹⁷⁸

Liability of dentists is more likely to rest on informed consent. If a dentist knows or has reason to know that he carries HBV, a failure to inform the patient of the risks of contracting the disease constitutes negligence.¹⁷⁹ Moreover, due to the nature of HBV, a dentist's knowledge that he is a potential carrier may be sufficient to invoke a disclosure requirement.¹⁸⁰ Regardless, the risk of harm to patients clearly

172. See *supra* notes 109-20 and accompanying text.

173. See, e.g., Pfeifer v. Konat, 181 Neb. 30, 146 N.W.2d 743 (1966) (patient developed staphylococcal infection); Germann v. Matriss, 55 N.J. 193, 260 A.2d 825 (1970) (patient contracted tetanus after dental procedure). For discussion of the rationale of these decisions, see *infra* text accompanying notes 175-76.

174. The mode of transmission, preventative measures and dental standards of hepatitis exceeds the common knowledge of most laymen. See *supra* notes 20-25 & 31-55 and accompanying text.

175. See *supra* notes 49 & 53.

176. See *supra* notes 21-31 and accompanying text.

177. See *supra* notes 49-55 and accompanying text.

178. See *supra* notes 75-78 and accompanying text and text accompanying notes 136-48.

179. See *supra* notes 156-67 and accompanying text.

180. See *supra* notes 168-72 and accompanying text.

outweighs the burden on dentists to use precautionary measures. Adoption of such procedures would protect patients from the danger of disease as well as reduce the dentists' own risks of liability.

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