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Dallas Institute of Acupuncture and Oriental Medicine
Dallas, Texas

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PREFACE

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ACKNOWLEDGMENTS AND AVAILABILITY OF REPORT

This report was prepared by Yvonne Boudreau, MD, MSPH and Angela Weber, MS of HETAB, Division of Surveillance, Hazard Evaluations and Field Studies (DSHEFS). Desktop publishing was performed by Nichole Herbert and Pat Lovell. Review and preparation for printing were performed by Penny Arthur.

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Highlights of the NIOSH Health Hazard Evaluation of the Dallas Institute of Acupuncture and Oriental Medicine

Managers at the Dallas Institute of Acupuncture and Oriental Medicine (DIAOM) asked investigators from the National Institute for Occupational Safety and Health (NIOSH) to see if procedures at their clinic put employees at risk of exposure to certain pathogens. The primary pathogens of concern were the Hepatitis B and C viruses and the human immunodeficiency virus which are found in blood and body fluids.

What NIOSH Did

- We met with managers and employees to discuss clinic policies and procedures.
- We performed a visual inspection of the clinic procedure rooms and offices.
- We observed acupuncture, moxibustion, and cupping procedures performed at the clinic.

What NIOSH Found

- Sharps containers were generally not located within easy reach of the practitioner while treatments were being performed.
- The cupping jars, gauze, and gloves used by the practitioner were contaminated with blood during cupping procedures.
- The protective sheath around the acupuncture needles provides some protection from needlesticks. However, there is still a potential for needlesticks after the needle is removed from the patient's skin.
- An ozone generator is used to control odors from moxa smoke and other herbs.
- Latex and non-latex gloves are stored outside the treatment rooms and not within easy reach when needed.

What the DIAOM Can Do

- Insist that employees report all exposures to blood or body fluids.
- Offer Hepatitis B vaccination to employees.
- Refer employees who have had blood or body fluid exposures to a physician who is familiar with bloodborne pathogen exposures.
- Reduce exposure to latex as much as possible by providing non-latex gloves or powder-free, low-protein gloves.
- Stop using ozone generators.
- Move gloves and sharps containers closer to the practitioner during procedures.

What DIAOM Employees Can Do

- Report all blood exposures.
- As soon as possible after a blood exposure, see a physician who is familiar with bloodborne pathogen exposures.
- When using gloves, wear non-latex gloves whenever possible.
- Get the Hepatitis B vaccination.

What To Do For More Information:
We encourage you to read the full report. If you would like a copy, either ask your health and safety representative to make you a copy or call 1-513-841-4252 and ask for HETA Report # 2000-0341-2839

Health Hazard Evaluation Report 2000-0341-2839
Dallas Institute of Acupuncture and Oriental Medicine
Dallas, Texas
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SUMMARY

In June 2000, the National Institute for Occupational Safety and Health (NIOSH) received a request from management personnel at the Dallas Institute of Acupuncture and Oriental Medicine (DIAOM) to evaluate the potential for occupational exposures to bloodborne pathogens (BBPs; e.g., the human immunodeficiency virus [HIV], Hepatitis B virus [HBV] and Hepatitis C virus [HCV]) from procedures performed at DIAOM. In response to this request, NIOSH investigators conducted a site visit in October 2000. During this visit, we met with management and employee representatives to discuss clinic policies and procedures; performed a visual inspection of the clinic procedure rooms and offices; and observed acupuncture, moxibustion, and cupping procedures.

Although there have been reports of acupuncture procedures resulting in patients becoming infected with HIV, HBV, and HCV, these incidents were, in most cases, related to exposure to improperly sterilized reusable needles. With the current standard practice of using single-use, sterile acupuncture needles, this risk is greatly decreased. However, there is still a potential risk to the acupuncture practitioner for BBP exposures from needles freshly removed from a patient's skin. Furthermore, the cupping procedure used at DIAOM extracts several milliliters of blood and the cupping jars, gauze, and gloves used by the practitioner can be contaminated with blood from this procedure, posing another potential risk for infection with BBPs. In addition, we noted that sharps containers and gloves were located beyond easy reach of the practitioner during treatments and an ozone generator was occasionally used in the clinic for odor control. We offer several recommendations for decreasing the risk of occupational exposures to the employees at DIAOM.

NIOSH investigators found that acupuncture and cupping procedures can expose employees to BBPs. All exposures to blood should be evaluated by a physician. Ozone generators and latex gloves used at the DIAOM have the potential to cause illness in susceptible employees. Exposure to ozone and latex should be minimized.

Keywords: SIC 8049 (Offices and Clinics of Health care Practitioners, Not Elsewhere Classified), acupuncture, bloodborne pathogens, BBP, Human Immunodeficiency Virus, HIV, Hepatitis B virus, HBV, Hepatitis C virus, HCV, cupping, moxa.

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INTRODUCTION

In June 2000, the National Institute for Occupational Safety and Health (NIOSH) received a request from management personnel at the Dallas Institute of Acupuncture and Oriental Medicine (DIAOM) to evaluate the potential for occupational exposures to bloodborne pathogens (BBPs; e.g., the human immunodeficiency virus [HIV], Hepatitis B virus [HBV] and Hepatitis C virus [HCV]) from acupuncture and other procedures. In response to this request, NIOSH investigators conducted a site visit in October 2000.

BACKGROUND

Acupuncture

The Chinese tradition of acupuncture dates back at least 2000 years.[1] This practice gained attention in the United States (US) in 1972 when a New York Times reporter wrote about having received acupuncture while traveling with President Nixon in China.[2] In 1975, the first US acupuncture school (The New England School of Acupuncture) was opened in Watertown, Massachusetts. In 1982, the profession founded the Accreditation Commission for Colleges of Acupuncture and Oriental Medicine (ACAOM) which, in 1990, became recognized by the US Department of Education as an agency for accreditation at the master's degree level.[3] In 1997, the National Institutes of Health issued a consensus statement declaring acupuncture to be an effective treatment for certain medical conditions.[4] There are roughly 10,500 licensed acupuncturists in the US providing about 9-12 million patient visits annually. Most acupuncture practitioners are required to take board exams offered by the National Commission for the Certification of Acupuncture and Oriental Medicine (NCCAOM) to become certified practitioners.[5] Local acupuncture regulatory agencies may offer an additional certification process in certain states.

Acupuncture involves the insertion of very fine needles into the skin at specific points.[6] Other procedures often used in conjunction with acupuncture include *moxibustion*, which involves the burning of moxa (Latin name: *Artemesia vulgaris*; also called "mugwart" and "wild chrysanthemum"),[7] and *cupping*, in which a lancet is used to puncture the skin, after which a small glass jar is heated and placed over the punctured area, creating a vacuum that draws out approximately three to five milliliters (mL) of blood.[8] Transfer of viral infections, including HIV, HBV, and HCV, may occur between patients or from patients to practitioners if needles are not properly sterilized between uses.[9,10,11,12,13,14] However, sterile, single-use needles are almost universally used in the US today and are regulated by the US Food and Drug Administration (FDA) as approved medical devices.[15] The needles are surrounded by a protective plastic sheath, or guide tube, that prevents the needle from being inserted too deeply into the skin. This sheath also helps prevent inadvertent needlesticks to the practitioner. Many herbal products are used by acupuncture practitioners to treat a variety of patient concerns. These are classified by the FDA as dietary supplements and as such are not subject to the strict regulations required for compounds classified as drugs.[16]

Dallas Institute of Acupuncture & Oriental Medicine

Practitioners at the DIAOM have been offering acupuncture and other Oriental medicine procedures since 1996. They maintain a staff of approximately 14 faculty and 60 students who provide care to approximately 25 clients per week. All students must complete a clean needle technique course prior to beginning their training at the DIAOM. This course is sponsored by the Council of Colleges of Acupuncture and Oriental Medicine (CCAOM),[17] and its content is based on recommendations from the Centers for Disease Control and Prevention (CDC) regarding preventing transmission of BBPs.[18] Neither students nor faculty are required to receive a medical exam or any vaccinations to work at the DIAOM. If they sustain a needlestick or other

sharp object injury, they are sent to a physician for evaluation.

Solid-bore, individually packaged, 28-38 gauge single-use needles are utilized for acupuncture procedures. Needles, gauze, and cotton that have been contaminated with blood or other body fluids are disposed of into sharps containers located in each treatment room. Tweezers, forceps, and other reusable devices are soaked in a bleach solution between uses. Latex and non-latex gloves are available for all practitioners, and their use is encouraged but not mandatory. The gloves are stored in a supply room outside of the treatment rooms. All surfaces in the treatment rooms are cleaned with a 3% hydrogen peroxide solution between patient treatments.

The DIAOM maintains a collection of over 300 Oriental herbs and pills in a room within their office facility (Appendix A). These products are imported from China and, because they are classified as "dietary supplements" (not as "drugs"), they are not subject to any routine regulatory oversight in the US.[16] Specific herbs and/or pills are selected for treatment of a client's illness and then may be burned, ground with a mortar and pestle, or used in their original form. An ozone (O_3) generator is occasionally used for the purpose of controlling odors.

METHODS

During the site visit, NIOSH investigators met with management and employee representatives to discuss clinic policies and procedures, performed a visual inspection of the clinic procedure rooms and offices, and observed acupuncture, moxibustion, and cupping procedures utilized at the clinic.

EVALUATION CRITERIA

Bloodborne Pathogens

In the health care setting, BBP transmission can occur when health care workers (HCWs) are exposed to the blood or body fluids of infected patients.[19] Occupational exposures that may result in HIV, HBV, or HCV transmission include needlestick and other sharps injuries; direct inoculation of a virus into scratches, lesions, abrasions, or burns on the skin (percutaneous); and inoculation of virus onto the mucosal (mucous membrane) surfaces of the eyes, nose or mouth through splashes. HIV, HBV, and HCV do not spontaneously penetrate intact skin, and airborne transmission of these viruses does not occur.

In 1987, CDC developed universal precautions to help protect HCWs and patients from infection with BBPs in the health care setting.[20] These recommendations stress that blood is the most important source of HIV, HBV, and other BBPs and that infection control efforts should focus on the prevention of exposures to blood and the use of available vaccines. In 1991, the Occupational Safety and Health Administration (OSHA) issued the BBP Standard.[21] It requires that (a) HBV vaccine be made available to HCWs who are at risk of occupational HBV exposure, (b) written exposure control plans be developed, (c) engineering and work practice exposure controls be implemented, and (d) HCWs receive annual training in BBP exposure prevention. In 1995, CDC introduced the concept of standard precautions emphasizing that blood and body fluids of *all* patients should be considered potentially infectious.[20,22,23] The core elements of standard precautions comprise hand washing after patient contact, the use of barrier precautions (e.g., gloves, gowns, goggles, and face shields) to prevent mucocutaneous contact, minimal manual manipulation of sharp instruments and devices, and disposal of these items in puncture-resistant containers.

Needlesticks and Sharps Injuries

On November 6, 2000, the Needlestick Safety and Prevention Act (NSPA) became public law.[24] This Act mandates specific revisions to OSHA's

BBP Standard[21] in accordance with specific language included in the NSPA. These revisions include a requirement that in workplaces where there is a risk for percutaneous exposures to blood or other body fluids, a sharps injury log be kept in addition to the OSHA Log and Summary of Occupational Injuries and Illnesses (Form 200). This sharps injury log must include detailed information on the injury, including the type and brand of device involved in the incident, the department or work area where the exposure incident occurred, and an explanation of how the incident occurred.

Hepatitis B

Persons infected with HBV are at risk for chronic liver disease (e.g., chronic active Hepatitis, cirrhosis, and primary hepatocellular carcinoma) and can potentially infect others. The probability of HBV transmission after an occupational exposure is dependent upon the concentration of the virus in the implicated body fluid, the volume of infective material transferred, and the route of inoculation (e.g., percutaneous or mucosal). One of the most common modes of HBV transmission in the health care setting is an unintentional injury from a needle contaminated with blood from a patient who is Hepatitis B surface antigen (HBsAg) positive.[25] The risk of transmission after a needlestick exposure, if the exposed person is not immune, is about 30% if the source patient is positive for Hepatitis B e antigen (HBeAg).[26,27]

The incidence of HBV infection among HCWs has decreased since the early 1980s.[28] The decline is attributed to the implementation of standard precautions in health care settings, including the increasing use of barrier precautions and personal protective devices (gloves, goggles, etc.) and increasing levels of Hepatitis B vaccination coverage among HCWs.[29,30,31] The Advisory Committee on Immunization Practices (ACIP) and the Hospital Infection Control Practices Advisory Committee (HICPAC) recommend that workers potentially exposed to blood or blood-contaminated body fluids receive vaccination with the HBV vaccine, which provides pre- and post-exposure protection against HBV infection.[32,33] Three intramuscular doses induce a protective antibody response in >90% of healthy recipients for at least 12 years, and routine booster doses of Hepatitis B vaccine are not considered necessary.[34,35,36] One to two months after completion of the three-dose series, post-vaccination testing should be done for all HCWs who are at risk for BBP exposures. Persons who do not show the presence of antibodies to HBV after the primary vaccine series should complete a second three-dose vaccine series or be evaluated to determine if they are HBsAg positive. Re-vaccinated persons should be retested at the completion of the second vaccine series. Non-responders who are HBsAg negative should be considered susceptible to HBV infection and should be counseled regarding precautions to prevent HBV infection and the need to obtain Hepatitis B immune globulin (HBIG) prophylaxis for any known or probable exposure to HBsAg-positive blood.[20] For exposed persons who are not immune, either because they have not received the HBV vaccine series or because they are non-responders, multiple doses of HBIG have been shown to provide an estimated 75% protection from HBV infection following percutaneous exposure to HBsAg-positive blood when initiated within one week of exposure.[37,38,39] These individuals should also receive the HBV vaccine series.[40]

HBV is resistant to drying, simple detergents, and alcohol, and has been found to be stable on environmental surfaces for at least seven days.[41,42,43,44,45,46] Thus, indirect inoculation can occur via inanimate objects (e.g., contaminated medical equipment or environmental surfaces). However, HBV has been shown to be inactivated by several intermediate-level disinfectants, including 0.1% glutaraldehyde and 500 parts per million (ppm) free chlorine from sodium hypochlorite (i.e., household bleach).[47,48] Heating to 98°C for two minutes also inactivates HBV.[49]

Hepatitis C

HCV was identified in 1988 as the primary cause of non-A, non-B Hepatitis, and as a major cause of acute and chronic Hepatitis worldwide. HCV typically circulates at lower titers in infected blood than HBV and is not transmitted efficiently through occupational exposures to blood.[50,51]

Hence, HCV is most likely to be transmitted only by *large* exposures to blood, such as through the transfusion of blood or blood products from infectious donors or sharing of contaminated needles among injection drug users.[19] The actual risk of infectivity has not been well-defined for HCV. The average incidence of HCV infection after needlestick or sharps exposure from a known HCV-positive source patient ranges from 0 to 7%, with one study reporting that transmission occurred only from hollow-bore needles compared with other sharps.[51,52,53,54,55] No transmission to HCWs has been documented from intact or non-intact skin exposures to blood.[51] The risk for transmission after exposure to fluids or tissues other than blood has not been quantified, but is expected to be low.[40]

There is currently no vaccine available for HCV, and post-exposure prophylaxis with immune globulin does not appear to be effective in preventing HCV infection.[56] Even in the absence of available pre- or post-exposure prophylaxis, individual worksites should establish policies and procedures for follow-up after percutaneous or mucosal exposure to anti-HCV positive blood to address individual worker's concerns about their risk and outcome.[57] The HCV status of the source and the exposed person should be determined and, if indicated, follow-up HCV testing should be performed to determine if infection develops in the exposed worker.[50]

Data are limited on survival of HCV in the environment. Rapid degradation of HCV occurs when serum containing HCV is left at room temperature.[58] In contrast to HBV, the data suggest that environmental contamination with blood containing HCV does not pose a significant risk for transmission in the health care setting, with the possible exception of the hemodialysis setting where HCV transmission related to environmental contamination and poor infection control practices has been implicated.[59,60,61,62,63,64]

Human Immunodeficiency Virus

Most occupational exposures to HIV do not result in infection. The risk of infection varies with the type of exposure and factors such as the amount of blood involved in the exposure, the amount of virus in the blood, and whether treatment was given after the exposure. Among HCWs, the average risk of HIV infection after a needlestick or cut exposure to HIV-infected blood from freshly contaminated sharps is 0.3% (about 1 in 300).[65] Stated another way, 99.7% of needlestick/cut exposures do not result in infection. The risk of HIV infection after exposure of the eye, nose, or mouth to HIV-infected blood is estimated to be 0.09% (about 1 in 1000).[66] There have been no documented cases of HIV transmission due to an exposure involving a small amount of blood on intact skin. Although episodes of HIV transmission after non-intact skin exposure have been documented, the average risk for transmission by this route is estimated to be less than the risk for mucous membrane exposures.[67,68] The risk for transmission after exposure to fluids or tissues other than HIV-infected blood also has not been quantified, but appears to be considerably lower than for blood exposures.[69]

After an occupational exposure to HIV, employees should be tested for HIV status, and if not positive, should be followed-up for up to six months. Post-exposure prophylaxis is an important element in the management of an occupational exposure to HIV.[70] The use of zidovudine (ZDV) and other antiviral drugs after certain occupational exposures may reduce the chance of HIV infection.[71] A physician familiar with the risks of HIV infection and the side effects of the drugs should be consulted immediately after an exposure to determine whether post-exposure treatment is appropriate and, if so, the selection of the regimen to use. Prevention of occupational exposures, particularly percutaneous injuries, is the primary means of avoiding occupationally acquired HIV infection.

Studies have indicated that HIV is readily susceptible to a variety of disinfectants.[72] The titer of HIV in blood is reduced by 90-99% within several hours after drying, and it further diminishes with time.[20,73] There is no evidence for HIV transmission from environmental surfaces.

Sterilization and Disinfection

Standard sterilization and disinfection procedures recommended for patient care equipment are adequate to sterilize or disinfect items contaminated with blood or other body fluids from people infected with BBPs.[20] Because foreign material may interfere with the sterilization or disinfection procedure, devices must first be adequately cleaned.[74] All spills of blood and blood-contaminated body fluids should be promptly cleaned by a person wearing appropriate gloves and using an Environmental Protection Agency-approved disinfectant or a 1:10 to 1:100 solution of household bleach.[20] Visible material should first be removed with disposable towels or other means to prevent direct contact with blood. The area should then be decontaminated with an appropriate disinfectant.[20]

Latex

Natural latex is an intracellular milky fluid produced by the laticifer cells of the tropical rubber tree, *Hevea brasiliensis*. It is manually harvested and, through multiple processes, is converted into natural rubber latex (NRL). This, in turn, is used for the manufacture of commercial latex products, including latex gloves, balloons, and condoms. Over the last 20 years, reports of adverse reactions to NRL have increased, and latex allergy has been recognized as an occupational health hazard. Studies in HCWs have shown latex allergy prevalence rates of 2-16.9%.[75,76,77] Several reasons may exist for the increase in reports of latex allergy and other adverse reactions to latex. The use of latex gloves has increased significantly since the introduction of universal precautions to prevent the transmission of HIV, HBV, and other infectious agents. To meet the increased demand for latex gloves, some manufacturers may produce more allergenic gloves because of changes in raw materials, processing, or manufacturing procedures. Also, physician and public awareness of latex allergy has increased. Routes of exposure to NRL include dermal, mucosal, percutaneous, and inhalation. NRL sensitization is also associated with allergies to certain foods, including banana, avocado, potato, tomato, passion fruit, kiwi fruit, papaya, and chestnut.[78,79] The prevention of adverse latex reactions depends on the identification of individuals who are allergic so that they can avoid exposure to NRL-containing products. If latex allergy is suspected, a physician familiar with latex allergy should be consulted.

RESULTS

During our observation of procedures at the DIAOM, we noted the following:

1. Sharps containers were generally located in a corner of the treatment rooms beyond easy reach of the practitioner while treatments were being performed. Approximately 30 pounds of sharps containers are disposed of as biohazardous waste on a monthly basis.

2. Three to five mL of blood were extracted during the cupping procedures. The cupping jars, gauze, and gloves used by the practitioner were contaminated with blood from this procedure. Contaminated cupping jars are placed on a tray covered with a reusable, absorbent liner. The potential for cross-contamination exists if this liner cannot be appropriately decontaminated. Decontamination procedures were not observed during the NIOSH site visit, but the DIAOM management told us that they planned to replace the liners with a disposable adsorbent product.

3. The protective sheath around the acupuncture needles provides some protection from unintentional needlesticks. However, there is still a potential for needlesticks after the needle is removed from the patient's skin.

4. The burning of moxa created a noticeable, strong odor and visible smoke in the treatment room. DIAOM personnel reported that a smokeless form of moxa is available.

5. Gloves are stored outside of treatment rooms; none were available in the individual treatment rooms.

6. An O_3 generator is occasionally used for the purpose of controlling odors. The O_3 generator was not used during the NIOSH site visit.

7. There is no exhaust ventilation or containment provided in the herbal storage room where the herbs and other products are prepared (i.e., crushed or mixed).

DISCUSSION

Although the practice of acupuncture has historically resulted in HIV, HBV, and HCV infections in patients, these incidents were, in most cases, related to the utilization of reusable needles that were not properly sterilized.[9-14] With the incorporation of single-use, sterile acupuncture needles, this risk is greatly decreased. However, there is still a potential risk to the acupuncture practitioner of exposures from needles freshly removed from a patient's skin. In addition, the cupping procedure used at DIAOM produces several milliliters of blood, and exposure to this blood is a potential risk for infection with any of the BBPs. O_3 generators (electronic devices that emit O_3 by design) are commercially available and widely promoted as air cleaning devices that eliminate chemical pollutants, remove indoor allergens, kill molds and bacteria, and "freshen air" in the indoor environment. However, no carefully conducted studies (published in the peer-reviewed literature) have substantiated that O_3 removes these pollutants innocuously.[80,81] In fact, studies have found that in addition to being a primary pulmonary irritant, O_3 can react with other chemicals in the indoor environment to create insidious and more irritating chemical compounds.[82,83]

RECOMMENDATIONS

1. Immediately following an exposure to blood or body fluids, or to objects potentially contaminated with blood or body fluids, the following should occur: areas of skin exposed to needlesticks and cuts should be washed with soap and water; after splashes to the nose, mouth, or skin, the area should be flushed with water; and after splashes to the eyes, the eyes should be irrigated with clean water, saline, or sterile irrigants.[23]

2. All workplace needlesticks, cuts from other sharp objects, or splashes onto the skin, eyes, nose, or mouth should be immediately reported and evaluated by a physician familiar with occupational BBP exposures. A program should be put into place that emphasizes and ensures that this reporting and medical follow-up is taking place.[21, 84]

3. In accordance with CDC recommendations and OSHA requirements for HCWs, all employees should be offered the HBV vaccine free of charge.[32,85] One to two months after completion of the three-dose vaccination series, employees should be tested for antibody to Hepatitis B surface antigen (anti-HBs). Booster doses of Hepatitis B vaccine are not considered necessary, and periodic serologic testing to monitor antibody concentrations after completion of the vaccine series is not recommended.

4. Employers should provide education to employees regarding the prevention of HCV in the occupational setting, and such information should be routinely updated to ensure accuracy.[57] The DIAOM should establish policies and procedures for follow-up after percutaneous or mucosal exposure to anti-HCV positive blood to address individual worker's concerns about their risk and outcome.

5. A sharps injury log should be kept in accordance with the 2000 NSPA.[24]

6. Employees should be provided with accurate and up-to-date information on the risk and prevention of infection from all bloodborne pathogens. After any sharp injury or splash to the eyes, nose, or mouth, DIAOM management should refer the exposed worker to an occupational or infectious disease physician to discuss the need for post-exposure treatment and follow-up.[40]

7. Consider placing the sharps containers on movable carts that can be placed near the practitioner during procedures to decrease the

handling time of contaminated gauze, cotton, and acupuncture needles.

8. Because of the potential for employees to develop allergy to latex, the use of latex gloves should be limited to those situations where latex is considered necessary to prevent skin exposure to infectious agents. If latex gloves are chosen, use powder-free low-protein gloves. Consider making gloves available in treatment rooms so that practitioners will have easy access to them during procedures.

9. All spills of blood and blood-contaminated body fluids should be promptly cleaned by a person wearing appropriate gloves and using an Environmental Protection Agency-approved disinfectant or a 1:10 to 1:100 solution of household bleach.[20,40] Visible material should first be removed with disposable towels or other means to prevent direct contact with blood. The area should then be decontaminated with an appropriate disinfectant. Latex gloves do not provide adequate protection from disinfection agents, since the chemicals may cause deterioration of the glove material. Consideration should be given to using vinyl or nitrile rubber gloves instead of latex. Nitrile, for example, could safely be used with most disinfectants including ethyl alcohol, hydrogen peroxide, glutaraldehyde, and sodium hypochlorite (bleach).[86] Nitrile also offers adequate protection from bodily fluids.

10. The use of O_3 generators should be avoided. If an ozone generator is used, employees need to be informed of ozone exposures as part of the OSHA Hazard Communication Standard or Worker Right-to-Know regulations.[87] Source control, dilution ventilation, proper filtration, and prudent mechanical hygiene practices are far more effective alternatives to managing and alleviating indoor environmental pollutants than use of O_3 generators.

11. The use of source control ventilation should be considered when dust-producing (e.g., crushing) activities are performed. Additionally, since a smokeless version of moxa is available, consider its use where feasible.

REFERENCES

1. Birch, SJ, Felt RL [1999]. Understanding Acupuncture. Brookline, Massachusetts: Paradigm Publications.

2. Ceniceros S, Brown GR [1998]. Acupuncture: a review of its history, theories, and indications. South Med J 91(12):1121-5.

3. Department of Education, Office of Postsecondary Education [1995]. Nationally Recognized Accrediting Agencies and Associations. Criteria and Procedures for Listing by the US Secretary For Education and Current List. Washington, DC, US Department of Education.

4. National Institutes of Health [1997]. NIH Consensus Statement: acupuncture. 15(5):1-34. http://odp.od.nih.gov/consensus/cons/107/107statement.htm.

5. Council of Colleges of Acupuncture and Oriental Medicine. Spring 2000 Newsletter. http://www.ccaom.org/spring_2000.htm.

6. Firebrace P [1988]. Acupuncture: restoring the Body's Natural Healing Energy. New York, New York: Harmony Books.

7. Therapeutics of Acupuncture & Moxibustion: English-Chinese Encyclopedia of Practical Therapeutic Chinese Medicine [1991]. Xu Xiangcai (Ed). Hong Kong: Higher Education Press.

8. Chirali, IZ [1999]. Cupping Therapy: Traditional Chinese Medicine. London, UK: Churchill Livingstone.

9. Peuker ET, White A, Ernst E, Pera F, Filler TJ [1999]. Traumatic complications of acupuncture. Arch Fam Med 8:553-558.

10. Kent GP, Brondum J, Keenlyside RA, LaFazia LM & Scott HD [1988]. A large outbreak of acupuncture-associated Hepatitis B. Am J Epidemiol 127:591-8.

11. Vittecoq D, Mettetal JF, et al. [1989]. Acute HIV infection after acupuncture treatments. NEJM 320:250-1.

12. Stryker WS, Gunn RA, Francis DP [1986]. Outbreak of Hepatitis B associated with acupuncture. J Fam Pract 22(2):155-8.

13. Sun CA, Chen HC, Lu CF, et al. [1999]. Transmission of Hepatitis C virus in Taiwan: prevalence and risk factors based on a nationwide survey. J Med Virol 59(3):290-6.

14. Phoon WO, Fong NP, Lee J [1988]. History of blood transfusion, tattooing, acupuncture and risk of Hepatitis B surface antigenemia among Chinese men in Singapore. Am J Pub Hlth 78:958-60.

15. Department of Health and Human Services, Food and Drug Administration [1996]. 21 CFR Part 880 [Docket Number 94P-0443], Medical Devices: reclassification of acupuncture needles for the practice of acupuncture, final rule. Federal Register 61(236):64616-7.

16. US Food and Drug Administration [1999]. FDA Consumer Publication No. FDA 99-2323.

17. Council of Colleges of Acupuncture and Oriental Medicine [2001]. http://www.ccaom.org/.

18. Clean Needle Technique Manual for Acupuncturists: guidelines and standards for the clean and safe clinical practice of acupuncture [1997]. Fourth Ed. National Acupuncture Foundation.

19. Beltrami EM, Williams IT, Shapiro CN & Chamberland ME [2000]. Risk and Management of Bloodborne Infections in Health Care Workers. Clin Microbiol Rev July 2000:385-407.

20. Centers for Disease Control & Prevention [1987]. Recommendations for prevention of HIV transmission in health-care settings. MMWR 36(2S);1-18.

21. US Department of Labor, Occupational Safety and Health Administration [1991]. 29 CFR Part 1910.1030. Occupational exposure to bloodborne pathogens: final rule. Fed Regist 56:64004-182.

22. Garner JS & the Hospital Infection Control Practices Advisory Committee [1996]. Guidelines for isolation precautions in hospitals. Inf Cont Hosp Epi 17:53-80.

23. Centers for Disease Control [1988]. Update: universal precautions for prevention of transmission of HIV, HBV & other bloodborne pathogens in health-care settings. MMWR 37:377-82, 387-8.

24. United States Congress [2000]. Public Law 106-430. Needlestick Safety and Prevention Act. HR5178.

25. Alter HJ, Seell LB, Kaplan PM, McAuliffe VJ, et al. [1976]. Type B Hepatitis: the infectivity of blood positive for e antigen and DNA polymerase after accidental needlestick exposure. NEJM 295:909-13.

26. Grady GF, Lee VA, Prince AM, et al. [1978]. Hepatitis B immune globulin for accidental exposures among medical personnel: final report of a multicenter controlled trial. J Inf Dis 138:625-38.

27. Werner BG & Grady GF [1982]. Accidental Hepatitis B surface antigen positive inoculations: use of e antigen to estimate infectivity. Ann Intern Med 97:367-9.

28. Centers for Disease Control & Prevention [1994]. Hepatitis surv. report, Atlanta. p. 3-6.

29. Beckman SE, Vlahow F, Koziol DE, et al. [1994]. Temporal association between implementation of universal precautions and a sustained progressive decrease in percutaneous exposures to blood. Clin Inf Dis 18:562-9.

30. Haiduven DJ, Domain TM, Stevens DA [1992]. A five-year study of needlestick injuries: significant reduction associated with communication, education and convenient placement of sharps containers. Inf Cont Hosp Epi 13:265-71.

31. Wong ES, Stotka JL, Chinchilli DS, et al. [1991]. Are universal precautions effective in reducing the number of occupational exposures among health care workers? A prospective study of physicians on a medical service. JAMA 265:1123-8.

32. Centers for Disease Control & Prevention [1997]. Immunization of health-care workers: recommendations of the Advisory Committee on Immunization Practices (ACIP) and the Hospital Infection Control Practices Advisory Committee (HICPAC). MMWR 46:RR-18, December 26.

33. Centers for Disease Control [1982]. Recommendation of the Immunization Practices Advisory Committee (ACIP) - inactivated Hepatitis B virus vaccine. MMWR 31:317-28.

34. Wainwright RB, McMahon BJ, Bulkow LR, et al. [1989]. Duration of immunogenicity and efficacy of Hepatitis B vaccine in a Yupik Eskimo population. JAMA 261:2362-6.

35. West DJ, Watson B, Lichtman J, et al. [1994]. Persistence of immunologic memory for twelve years in children given Hepatitis B vaccine in infancy. Pediatr Inf Dis J 13:745-7.

36. Whittle HC, Maine J, Pilkington M, et al. [1995]. Long-term efficacy of continuing Hepatitis B vaccination in infancy in two Gambian villages. Lancet 345:1089-92.

37. Grady GF, Lee VA, Prince AM, et al. [1978]. Hepatitis B immune globulin for accidental exposures among medical personnel: final report of a multicenter controlled trial. J Inf Dis 138:625-38.

38. Seeff LB, Zimmerman HJ, Wright EC, et al. [1977]. A randomized, double blind controlled trial of the efficacy of immune serum globulin for the prevention of post-transfusion Hepatitis: a Veterans' Administration cooperative study. Gastroenterology 72:11-21.

39. Prince AM, Szmuness W, Mann MK, et al. [1975]. Hepatitis B "Immune" globulin: effectiveness in prevention of dialysis-associated Hepatitis. NEJM 293:1063-7.

40. Centers for Disease Control & Prevention [2001]. Updated Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV and HIV and Recommendations for Postexposure Prophylaxis (PEP). Preliminary draft, March, 2001.

41. Favero MS [1985]. Sterilization, disinfection and antisepsis in the hospital, p. 129-37. In Lennette EH, Balows A, Hausler WJ & Shadomy HJ (eds.). Manual of clinical microbiology, 4th ed. American Society for Microbiology, Washington, DC.

42. Pattison CP, Boyer KM, Maynard JE & Kelly PC [1974]. Epidemic Hepatitis in a clinical laboratory: possible association with computer card handling. JAMA 230:854-7.

43. Bond WW, Favero MS, Peterson NJ, et al. [1981]. Survival of Hepatitis B virus after drying and storage for one week [Letter]. Lancet 1:550-1.

44. Hennekens CH [1973]. Hemodialysis-associated Hepatitis: an outbreak among hospital

personnel. JAMA 225:407-8.

45. Garibaldi RA, Forrest JN, Bryan JA, et al. [1973]. Hemodialysis-associated Hepatitis. JAMA 225:384-9.

46. Snydman DR, Bryan JA, Macon EJ, Gregg MB [1976]. Hemodialysis-associated Hepatitis: a report of an epidemic with further evidence on mechanisms of transmission. Am J Epi 104:563-70.

47. Bond WW, Favero MS, Peterson NJ & Ebert JW [1983]. Inactivation of Hepatitis B virus by intermediate-to-high-level disinfectant chemicals. J Clin Micro 18:535-8.

48. Favero MS & Bond WW [1993]. Disinfection and sterilization, p. 565-75. In Zuckerman AJ & Thomas HC (eds.). Viral Hepatitis; scientific basis and clinical management. Churchill Livingston, New York, NY.

49. Kubayashi H, Tsuzoki M, Koshimizu K, et al. [1984]. Susceptibility of Hepatitis B virus to disinfectants and heat. J Clin Microbiol 20:214-6.

50. Bradley DW, Krawczynski K, Beach MJ & Purdy MA [1991]. Non-A, non-B Hepatitis: toward the discovery of Hepatitis C & E viruses. Semin Liver Dis 11:128-46.

51. Davis GL & Lau JYN [1995]. Hepatitis C. p. 2082-114. In WS Haubrich, F Schaffner & JE Berk (eds), Gastroenterology, 5th ed. WB Saunders & Co., Philadelphia, PA.

52. Alter MJ [1997]. The epidemiology of acute and chronic Hepatitis C. Clin Liver Dis 1:559-68.

53. Lanphear BP, Linnemann CC, Jr., Cannon CG, et al. [1994]. Hepatitis C virus infection in health care workers: risk of exposure and infection. Inf Cont Hosp Epi 15:745-50.

54. Puro V, Petrosillo N, Ippolito G, Italian Study Group on Occupational Risk of HIV and Other Bloodborne Infections. Risk of Hepatitis C seroconversion after occupational exposure in health care workers. Am J Inf Cont 23:273-7.

55. Mitsui T, Iwano K, Masuko K, et al. [1992]. Hepatitis C virus infection in medical personnel after needlestick accident. Hepatology 16:1109-14.

56. Alter MJ [1994]. Occupational exposure to Hepatitis C virus: a dilemma. Inf Cont Hosp Epi 15:742-44.

57. Centers for Disease Control & Prevention [1998]. Recommendations for the prevention and control of Hepatitis C virus (HCV) infection and HCV-related chronic disease. MMWR 47(RR-19):1-39.

58. Cuypers HT, Bresters MD, Winkel IN, et al. [1992]. Storage conditions of blood samples and primer selection affect yield of cDNA polymerase chain reaction products of Hepatitis C virus. J Clin Microbiol 30:3320-4.

59. Davis GL, Lau JY, Urdea MS, et al. [1994]. Quantitative detection of Hepatitis C virus RNA with a solid-phase signal amplification method: definition of optimal conditions for specimen collection and clinical application in interferon-treated patients. Hepatology 19:1337-41.

60. Polish LB, Tong MJ, Co RL, Coleman PJ, Alter MJ [1993]. Risk factors for Hepatitis C virus infection among health care personnel in a community hospital. Am J Inf Cont 21:196-200.

61. Niu MT, Coleman PJ, Alter MJ [1993]. Multicenter study of Hepatitis C virus infection in chronic hemodialysis patients and staff. Am J Kidney Dis 22:568-73.

62. Hardy NM, Sandroni S, Danielson S, Wilson WJ [1992]. Antibody to Hepatitis C virus increases with time on hemodialysis. Clin

Nephrol 38:44-8.

63. Niu MT, Alter MJ, Kristensen C, Margolis HS [1992]. Outbreak of hemodialysis-associated non-A, non-B Hepatitis and correlation with antibody to Hepatitis C virus. Am J Kidney Dis 4:345-52.

64. Favero MS, Alter MJ [1996]. The reemergence of Hepatitis B virus infection in hemodialysis centers. Sem Dialysis 9:373-4.

65. Bell DM [1997]. Occupational risk of human immunodeficiency virus infection in health care workers; an overview. Am J Med 102(Suppl. 5B):9-14.

66. Ippolito GV, Puro G, et. al. [1993]. The risk of occupational human immunodeficiency virus infections in health care workers. Arch Int Med 153:1451-58.

67. Centers for Disease Control [1987]. Update: human immunodeficiency virus infections in health-care workers exposed to blood of infected patients. MMWR 36:285-89.

68. Fahey BJ, Koziol De, Banks SM, Henderson DK [1991]. Frequency of nonparenteral occupational exposures to blood and body fluids before and after universal precautions training. Am J Med 90:145-53.

69. Henderson DK, Fahey BJ, Willy M, et al. [1990]. Risk for occupational transmission of human immunodeficiency virus type 1 (HIV-1) associated with clinical exposures: a prospective evaluation. Ann Int Med 113:740-46.

70. Centers for Disease Control & Prevention [1998]. Public Health Service guidelines for the management of health-care worker exposures to HIV and recommendations for postexposure prophylaxis. MMWR 47(RR-7):1-34.

71. Cardo DM, Culver DH, et al. [1997] A case-control study of HIV seroconversion in health care workers after percutaneous exposure. NEJM 337:1485-90.

72. Sattar SA & Springthorpe VS [1991]. Survival and disinfectant inactivation of the human immunodeficiency virus. Rev Inf Dis 13:430-47.

73. Van Bueren J, Simpson RA, Jacobs P & Cookson BD [1994]. Survival of human immunodeficiency virus in suspension and dried onto surfaces. J Clin Microbiol 32:571-74.

74. Martin MA, Reichelderfer M, and the Association for Professionals in Infection Control and Epidemiology, Inc. [1994]. APIC guideline for infection prevention and control in flexible endoscopy. Am J Inf Cont 22;19-38.

75. Arellano R, Bradley J, Sussman G. Prevalence of latex sensitization among hospital physicians occupationally exposed to latex gloves. *Anesthesiology* 77: 905-908, 1992.

76. Wrangsjo K, Osterman K, van Hage-Hamsten M. Glove-related skin symptoms among operating theatre and dental care unit personnel. II. Clinical examination, tests and laboratory findings indicating latex allergy. *Contact Dermatitis* 30: 139-143, 1994.

77. Yassin MS, Lierl MB, Fisher TJ, O'Brien K, Cross J, Steinmetz C. Latex allergy in hospital employees. *Annals of Allergy* 72: 245-249, 1994.

78. Blanco C, Carrillo T, Castillo R, Quiralte J, Cuevas M. Latex allergy: clinical features and cross-reactivity with fruits. *Ann Allergy* 73: 309-314, 1994.

79. Beezhold DH, Sussman GL, Liss GM, Chang M. Latex allergy can induce clinical reaction to specific foods. *Clin Exp Allergy* 26: 416-422, 1996.

80. Boeniger M [1995]. Use of Ozone Generating Devices to Improve Indoor Air

Quality. Am Ind Hyg J 56 June:590-8.

81. Shaughnessy RJ, Oatman L [1991]. The Use of Ozone Generators for Control of Indoor Air Contaminants in an Occupied Environment. Proceedings of ASHRAE Conference IAQ 91. Healthy Buildings. ASHRAE, Atlanta, GA.

82. Weschler CJ, Shields H [1997]. Potential Reactions among Indoor Pollutants. Atmospheric Environment 31(21):3487-95.

83. Zhang J & Lioy P [1994]. Ozone in Residential Air: Concentrations, I/O Ratios, Indoor Chemistry and Exposures. Indoor Air 4:95-102.

84. Centers for Disease Control [1990]. Public Health Service statement on management of occupational exposure to human immunodeficiency virus, including considerations regarding zidovudine postexposure use. MMWR 39(RR-1):1-14.

85. Kopfer AM, McGovern PM. 1993. Transmission of HIV via a needlestick injury: practice recommendations and research implications. AAOHN Journal 41(8):374-81.

86. Forsberg K and Mansdorf SZ, eds [1997]. Quick selection guide to chemical protective clothing. 3nd ed. New York:Van Nostrand Reinhold.

87. Esswein EJ & Boeniger M [1994]. Effect of an Ozone Generating Air-Purifying Device on Reducing Concentrations of Formaldehyde in Air. App Occ Env Hyg 9(2):139-46.

Appendix A – Herbs and Tea Pills at DIAOM

Raw Herbs

Ai Ye
Ai Ye Tan
Ba Dou
Bai Bu
Bai Dou Kou
Bai Fu Zi
Bai Guo
Bai He
Bai Hua She She Cao
Bai Ji
Bai Ji Li
Bai Ji Tian
Bai Jiang Cao
Bai Jie Zi
Bai Mao Gen
Bai Qian
Bai Shao Yao
Bai Tou Weng
Bai Xian Pi
Bai Zhi
Bai Zhu
Bai Zi Ren
Ban Lan Gen
Ban Xia
Bei Xie
Bi Ba
Bian Dou
Bian Xu
Bie Jia
Bing Lang
Bing Pian
Bo He
Bu Gu Zhi
Cang Er Zi
Cang Zhu
Ce Bai Ye
Chai Hu
ChanTui
Che Qian Cao
Che Qian Zi
Chen Pi
Chen Xiang
Chi Shao
Chi Xiao Dou
Chuan Bei Mu
Chuan Bei Xie
Chuan Lian Zi
Chuan Niu Xie
Chuan Shan Long
Chuan Wu
Chuan Wu Pian
Chuan Xiong
Ci Shi
Da Fu Pi
Da Huang
Da Ji
Da Qing Ye
Dai Zhe Shi
Dan Shen
Dan Zhu Ye
Dang Gui Pian
Dang Gui Wei
Dang Shen
Deng Xin Cao
Di Fu Zi
Di Gu Pi
Di Huang (sheng)
Di Long
Di Yu
Dong Gua Ren
Du Huo
Du Zhong
Du Zhong Ye
E Jiao
E Zhu
Fan Xie Ye
Fang Feng
Fang Ji
Fa Shou
Fu Hai Shi
Fu Ling
Fu Ling (curled)
Fu Ling Pi
Fu Pen Zi
Fu Shen
Fu Xiao Mai
Gan Cao Shen
Gan Cao Zhi
Gan Jiang
Gan Sui
Gao Ben
Gao Liang Jiang
Ge Gen
Gou Ji
Gou Qi Zi
Gou Teng
Gu Sui Bu
Gu Ya
Gua Lou
Gua Lou Pi
Gua Lou Ren
Gui Ban
Gui Zhi
Hai Feng Teng
Hai Piao Xiao
Hai Tong Pi
Hai Zao
Han Fang Ji
Han Lian Cao
He Huan Pi
He Shou Wu
He Ye
He Zi
Hei Zhi Ma
Hong Hua
Hong Ling Zhi
Hou Po
Hu Gu
Hu Huang Lian
Hu Jiao
Hu Zhang
Hua Shi
Hua Zhi Shen
Huai Hua Mi
Huang Bai
Huang Jing
Huang Lian
Huang Qi
Huang Qin
Huo Ma Ren
Huo Xiang
Jing Jie
Ji Guan Hua
Ji Nei Jin
Ji Xue Teng
Jiang Can
Jiang Huang
Jie Geng
Jin Qian Cao
Jin Yin Hua
Jing Ying Zi
Ju Hua
Jue Ming Zi
Ku Lian Gen Pi
Ku Shen
Kuan Dong Hua
Kun Bu
Lai Fu Zi
Lian Qiao
Lian Zi
Lian Zi Xin
Liu Huang
Liu Ji Nu
Long Dan Cao
Long Gu
Long Yan Rou
Lu Gen
Lu Hui
Lu Lu Tong
Lu Rang
Luo Bu Ma
Luo Shi Teng
Ma Chi Xian
Ma Huang
Ma Huang Gen
Mai Meng Dong
Mai Ya
Man Jing Zi
Mang Xiao
Mao Dong Qing
Ming Fan
Ma Yao
Mu Dan Pi
Mu Gua
Mu Li
Mu Li Fen
Mu Tong
Mu Xiang
Nan Sha Shen
Niu Bang Zi
Niu Xi
Nu Zhen Zi
Ou Jie
Ou Jie Tan
Pang Da Hai
Pj Pa Ye
Pu Gong Ying
Pu Huang
Qian Cao Gen
Qian Hu
Qian Nian Jian
Qian Niu Zi
Qian Shi
Qiang Huo
Qin Jiao
Qing Hao
Qing Pi
Qing Tian Kui
Qing Xian Zi
Qu Mai
Quan Xie
Ren Dong Teng
Ren Shen
Ren Shen (Korean)
Ren Shen Xu
Rou Dou Ko
Rou Gui
Rou Kong Rong
Ru Xiang
San Leng
San Qi
Sang Bai Pi

Appendix A (continued) – Herbs and Tea Pills at DIAOM

Raw Herbs (continued)

Sang Ji Sheng
Sang Shen
Sang Ye
Sang Zhi
Sha Ren
Sha Yuan Zi
Shan Yao
Shan Zha
Shan Zhu Yu
Shang Lu
She Gan
She Tui
Shen Qin Cao
Shen Qu
Sheng Chuang Zi
Sheng Ma
Shi Chang Pu
Shi Gao
Shi Gao (powder)
Shi Hu
Shi Jian Chuang
Shi Jue Ming
Shi Wei
Shu Di Huang
Shu Fu Zi
Shui Niu Jiao
Shui Zhi
Si Gua Luo
Song Jie
Song Xian
Suan Zao Ren
Suo Yang
Tai Zi Shen
Tao Ren
Tian Hua Fen
Tian Ma
Tian Nan Xing
Tian Qi
Ting Li Zi
Tong Cao
Tu Fu Ling
Tu Si Zi
Wang Bu Liu Xiang
Wei Ling Xian
Wu Gong
Wu Jia Pi
Wu Ling Zhi
Wu Mei
Wu Wei Zi
Wu Yao
Wu Zhu Yu
Xi Xin
Xi Yang Shen
Xia Ku Cao
Xian He Cao
Xian Mao
Xiang Fu
Xiao Hui Xiang
Xie Bai
Xin Yi Ha
Xing Ren
Xu Duan
Xuan Fu Hua
Xuan Shen
Ya Dan Zi
Yan Hu Suo
Ye Jiao Teng
Ye Ju Hua
Yi Mu Cao
Yi Yi Ren
Yi Zhi Ren
Yin Chen Hao
Ying Yang Huo
Yuan Zhi
Yu Jin
Yu Li Ren
Yu Xing Cao
Yu Zhu
Yuan Hua
Ze Lan
Ze Xie
Zhang Nao
Zhe Bei Mu
Zhen Zu
Zhi Ke
Zhi Mu
Zhi Nan Xing
Zhi Shi
Zhi Zi
Zhu Ru
Zi Cao
Zi Cao Wu
Zi Hua Di Ding
Zi Ran Tong
Zi Su Ye
Zi Su Zi
Zi Wan
Zi Zhu
Zhu Ling

Appendix A (continued) – Herbs and Tea Pills at DIAOM

Golden Flower Herbs

ASTRAGALUS & LIGUSTRUM FORMULA
ASTRAGALUS FORMULA
ASTRAGALUS FORMULA SYRUP
BLOOD PALARE FORMULA
BUPLEURUM & TANG KUEI FORMULA
BUPLEURUM D FORMULA
CHASE WING, PENETRATE BONE FORMULA
CINNAMMON & PORIA FORMULA
CINNAMMON D FORMULA
CLEMATIS & STEPHANIA FORMULA
COPTIS RELIEVE TOXICITY FORMULA
CORYDALIS FORMULA
DUHUO & LORANTHUS FORMULA
EASE DIGESTION FORMULA
EIGHT IMMORTALS FORMULA
ESSENTIAL YANG FORMULA
FREE & EASY WANDERER PLUS FORMULA
FRITILLARAIA & PINELLIA SYRUP
GASTRODIA & UNCARIA FORMULA
GENERAL TONIC FORMULA
GENTIANA DRAIN FIRE FORMULA
GINKGO FORMULA
GINSENG & ASTRAGALUS FORMULA
GINSENG NOURISHING FORMULA
HE SHOU WU TABLETS
HEAVENLY EMPEROR'S FORMULA
INTESTINAL FUNGUS FORMULA
JADE SCREEN & XANTHIUM FORMULA
JING QI FORMULA
JUAN BI FORMULA
LILY PRESERVE METAL FORMULA
MING MU FORMULA
MINOR BLUEGREEN DRAGON FORMULA
PEARL CREAM
MINOR BUPLEURUM FORMULA
NOURISH ESSENCE FORMULA
PEACEFUL SPIRIT FORMULA
PERSICA AND CISTANCHES FORMULA
PINELLIA & MAGNOLIA BARK FORMULA
PORIA & FENNEL FORMULA
PORIA 15 FORMULA
PUERARIA FORMULA
PULSATILLA INTESTINAL FORMULA
REHMANNIA & SCROPHULARIA
REHMANNIA COOL BLOOD FORMULA
SALVIA TEN FORMULA
SAN QI TABLETS
SEA OF QI FORMULA
SIBERIAN GINSENG TABLETS
SIX GENTLEMEN FORMULA
TANG KUEI & PEONY FORMULA
TANG KUEI & SALVIA FORMULA
TIEH TA FORMULA
TRUE YIN FORMULA
TWO IMMORTALS FORMULA
VIOLA CLEAR FIRE FORMULA
WOMEN'S PRECIOUS FORMULA
WU HUA FORMULA
YIN CHIAO FORMULA

Other Herbs

Dragon Diet BHI
Heel
Ligaplex II
Traumeel Ointment
Black Walnut
Vitamin A
Huo Xiang Zheng Qi Wan
Wood Lock
Oriented Oil
Colpac (small)
Colpac (large)

Appendix A (continued) – Herbs and Tea Pills at DIAOM

Patent Herbs

Alrodeer Pill
Armadillo Counter Poison Pill
Bai Zi Yang Xin Wan
Banlangen Chongji
Bao Ji Wan
Baohe Wan
BHI Cold
BHI Cough
BHI Spasm-Pain
Bu Zhong Yi Qi Wan
Cataract Vision-lmproving Pills
Ching Fei Yi Huo Pien
Ching.Wan Hung
Chuan Xiong Cha Tiao Wan
Chuang Yao Tonic
Crocodile Bile Pill
Da Bu Wan
Da Bu Yin Wan
Dang Gui Su
Dermocure Ointment
Diet Tea
Dragon Diet
Er Chen Wan
Er long Zuo Ci Wan
Essential Balm
Imperial Panax Ginseng Extract
Gripp-Heel
Guci Pian
Gui Pi Wan
Huang Lien
Huo Xiang Zhen Qi Wan
Jiang Ya Pien
Jie Geng Wan
Jigucao Wan
Jin Gui Di Huang Wan
Jin Suo Gu Jing Wan
Kai Yeung Pil
Ligaplex II
Liu Shen Shui
Long Dan Xie Gan Wan
Luobuma Chaing Yapien
Ma Wei Di Huang Wan
Ming Mu Di Huang Wan
Ming Mu Shang Ching Pien
Nu Ke Ba Zhen Wan
Passwan
Pearl Cream
Piantoutong Wan
Placenta Compound Restorative Pills
Po Sum On Medicated Oil
Pro Botanixx CR-21 0 (Jiang Zhi)
Rhematic Plaster
Run Chang Wan
Sai Mei An
San Bow Soul
San She Dan Chuan Bei Ye
San She Tan
Sang Chu Tablets
Sciatica Pills
Sea Horse Combination
Shen Qi Da Bu Pills
Shen Qi Wu Wei Zi Wan
Shi Hu Ye Guang Wan
Shilintong
Shui De An Capsules
Shu Gan Wan
Superior Sore Throat Powder Spray
Imperial Tang Kwei Gin
Tian Ma Wan
Tieh Ta Yao Gin
Tiger Balm
To Jing Wan
Traumeel
Wan Hua Shi Oil
Watermelon Frost
Wu Chi Paifeng Wan
Wuling San
Xiang Sha Yang Wei Wan
Xiao Chai Hu Tang Wan
Xiao Yao Wan
Yudai Pills (100 pills)
Yudai Pills (200 pills)
Yunnan Pai Yao
Yunnan Pai Yao (box)
Zheng Gu Shui (large)
Zheng Gu Shui (small)
Zhi Bai Di Huang Wan

Tea Pills

Anmien Pen
Bu Fei Teapills
Calm in the Sea of Life Teapills
Calm Spirit Teapills
Calm Stomach Teapills
Chuan Xin Lian
Clean Air Teapills
Clear Mountain Teapills
Clear Wind Heat Teapills
Curing Pill
Eight Righteous Teapills
Emperors Teapills
Five Peel Teapills
Four Gentlemen Teapills
Gan Mao Ling
Great Corydalis Teapills
Great Pulse Teapills
Great Yang Restoration Teapills
Jade Screen Teapills
Jade Spring Teapills
Ledebouriella Sagely Unblocks Teapills
Lidan Pian
Llycium Rehmannia Teapills
Lycu-Chrysanthemum Teapills
Magnolia Flower
Margari te Acne Pills
Nei Xiao luo Li Teapills
Panta Teapills
Pe Min Kan Wan
Pinellia Root Teapills
Salvia Teapills
Six Flavor Teapills
Solitary Hermit Teapills
Soothe Liver
Stasis in the Mansion of Blood Teapills
Suan Zao Ren Teng
The Snake & Dragon Teapills
You Gui Teapills
Zuo Gui Teapills

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