UNITED STATES OF AMERICA
OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION
1825 K STREET NW
4TH FLOOR
WASHINGTON, DC 20006-1246

FAX
COM (202) 634-4008
FTS (202) 634-4008

SECRETARY OF LABOR, Complainant, v. WALDON HEALTH CARE CENTER, Respondent.	OSHRC Docket No. 89-2804
SECRETARY OF LABOR, Complainant, v. ARA WOODLAKE NURSING HOME, Respondent.	OSHRC Docket No. 89-3097

DECISION

BEFORE: FOULKE, Chairman; WISEMAN and MONTOYA, Commissioners.

BY THE COMMISSION:

ARA Living Centers ("ARA") operates approximately 230 nursing homes in thirteen states. On May 10, 1989, OSHA conducted an inspection of ARA's Waldon Healthcare Center located in Kenner, Louisiana. A similar inspection of the ARA Woodlake Nursing Home in Clute, Texas, was conducted on August 16, 1989. As a result of these inspections, both facilities were issued citations alleging a violation of section 5(a)(1) of the Occupational Safety and Health Act, 29 U.S.C. §§ 651-678 ("the Act") on the grounds that nurses and nursing assistants throughout the facilities were exposed to the hazard of transmission of the Hepatitis B virus ("HBV") through possible direct contact with blood or other bodily fluids.

The Secretary listed the offering of the HBV vaccine to all such employees, at the employers' expense, as a feasible means of abatement.[1]

The cases were consolidated. A hearing was held before Judge Louis G. LaVecchia, who vacated the citations on the grounds that, although HBV is a recognized hazard in some parts of the health care industry, the Secretary failed to establish that the risk of contracting HBV is a recognized hazard in the nursing home industry. We find that the judge erred in finding that the hazard of HBV was not recognized by the industry. However, we conclude that the citations should be vacated because the Secretary failed to establish that the hazard of HBV transmission at ARA's facilities would be materially reduced by requiring the HBV vaccine to be offered to employees before any exposure to HBV.[2]

I. HEPATITIS B AND ITS TRANSMISSION

A. Transmission

Hepatitis means inflammation of the liver. Any infectious or chemical agent that will cause an inflammation of the liver can produce hepatitis. Viruses that cause hepatitis are given letters. Hepatitis B, a virus primarily found in blood and bodily fluids, is transmitted when a susceptible host comes in contact with blood or infectious bodily fluid. The fatality rate for HBV is less than 1 percent and most patients recover satisfactorily.

HBV can be transmitted in several ways: parenteral (*e.g.*, direct inoculation through the skin), through mucous membranes (blood contamination of the eye or mouth), sexual, and perinatal (infected mother to newborn infant).

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[1] Following the issuance of these citations, the Secretary promulgated, at 29 C.F.R. § 1910.1030, a new standard requiring employers to make available the HBV vaccine to all employees who may be exposed to blood or other infectious bodily fluids. 56 Fed. Reg. 64,004 (Dec. 6, 1991). Although, in the future, that new regulation would supersede the applicability of the general duty clause, *International Union, UAW v. General Dynamics Land Systems Div.*, 815 F.2d 1570 (D.C. Cir.), *cert. denied*, 484 U.S. 976 (1987), this case arose prior to the effective date of the standard and is properly considered under section 5(a)(1) of the Act.

[2] Because this case arose under the general duty clause, we must consider whether the Secretary established the violation by meeting the specific burdens that fall on the Secretary under section 5(a)(1). Of specific concern is whether the Secretary established that provision of the vaccine prior to exposure (*i.e.*, on a prophylactic basis) will significantly reduce the risk of HBV transmission when the employers already make the vaccine available to employees after exposure.

Bodily fluids that are proven transmitters of HBV include blood, saliva, vaginal fluid, and semen. Surface antigens for HBV (proteins that stimulate the production of an HBV antibody) are present in such fluids as tears, sweat, lymphatic fluid, nasal secretions, cervical secretions, urine, feces, sweat, and pus. Evidence of HBV transmission from these fluids in the absence of visible blood, however, has not been conclusively established.

Bodily routes of transmission vary in efficiency. The oral exchange of saliva (*e.g.*, kissing) is an inefficient medium for transmission. However, there have been instances of transmission through bites or where someone put a cut finger into the mouth of a carrier who was choking. HBV also can be transmitted when blood from a carrier enters a break in the skin. While needle sticks present the most obvious hazard of this type, any contact with blood from a carrier could present a risk of infection. In one instance, an HBV outbreak among secretaries in a clinical hospital lab was traced to data processing cards wrapped around blood samples. The secretaries received paper cuts when handling the cards and contracted HBV from the dried blood on the cards.

It is unlikely that the virus could be contracted though contact with blood or other potentially infectious fluids that dried on a material such as bed linen. Dr. Frank Lutz, director of the New Orleans Health Department, testified that to contract HBV from such linen, a person would practically have to inject it into his or her body.

The presence of HBV antigens is detectable by any one of several currently available blood tests. Depending upon the test, antigens can be detected from infections received 20-30 years earlier.

B. Effects of HBV and Its Prevalence in U.S. Nursing Homes

There are two types of responses to HBV. The most frequent response, seen in healthy adults, is the development of self-limited acute hepatitis and the production of an antibody which signifies the elimination of the virus from the body and lifetime immunity against reinfection. Of those who develop acute hepatitis, one-third will show no symptoms, one-third will develop flu-like symptoms, which are usually not diagnosed as hepatitis, and one-third will suffer more extreme symptoms including jaundice, dark urine, extreme fatigue, anorexia, nausea, abdominal or joint pain, a rash and/or fever. In about 20 percent of the jaundice cases, hospitalization is required. Those suffering from severe symptoms may be

unable to work for several weeks or months, even where there is no hospitalization. Fulminant hepatitis, which is 85 percent fatal, develops in about 1 to 2 percent of reported acute HBV cases and, overall, in 1 per 1000 HBV infections.

The second type of response is a chronic HBV infection. About 6 to 10 percent of adults who are infected with the virus cannot clear it from their systems, and become chronic HBV carriers. Such individuals are at high risk of developing chronic persistent hepatitis (a mild form of hepatitis), chronic active hepatitis (a progressive debilitating form of hepatitis that leads eventually to cirrhosis of the liver), cirrhosis of the liver, and primary liver cancer. Approximately 25 percent of all chronic carriers develop chronic persistent hepatitis while another 25 percent develop chronic active hepatitis.

Sero-prevalence tests reveal a considerable difference between the races in the presence of HBV. In general, 3 percent of Whites and 13 percent of Blacks are, or at some time were, infected by HBV. The prevalence of HBV antigens in the population also increases with age. From ages 12 to 15 there are very few infections. By ages 65 to 74, however, 6 to 7 percent of the White population and 40 percent of all Blacks are, or at some time were, infected.

A study conducted by the Center for Disease Control and Prevention ("CDC") regarding surface antigens (*Racial Differences in Rates of Hepatitis B Viral Infection-United States, 1976-1980*, Morbidity and Mortality Weekly Report, Vol. 38 No.7 (December 1, 1989)), showed that about 0.25 percent of Whites and slightly less than 1 percent of Blacks are either currently infected or chronic carriers of HBV. The study also showed no increase with age in the proportion of individuals that are currently infectious. In the United States, active infections are found primarily among the young, with the majority of cases occurring in the 20 to 30-year-old age group.

Although the virus has not been seriously studied in United States nursing homes,[3] a few studies have been conducted in other countries. A Scandinavian study of a cluster of HBV cases in a nursing home suggested that transmission had been caused by the sharing

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[3] One study of an ambulatory geriatric population showed that although 30 percent had evidence of past or present HBV, only 0.5-1 percent of those in the study were surface antigen positive and, therefore, contagious. This was not a nursing home study, however.

of rough bath brushes. An Italian study found that the institutionalized elderly have a higher rate of HBV infection than their noninstitutionalized counterparts. However, the general population pool of this study had a base HBV infection rate six times that found in the United States, and fourteen of the residents had been injected with the same needle. Given these atypical conditions, this study provides little insight into the prevalence of HBV in United States nursing homes. A study of a Quebec nursing home was conducted to determine whether employees should be vaccinated against HBV. Even though an HBV patient had resided in the home for seven years, the disease had not spread to other residents or employees. The study concluded that homes for the elderly do not have a propitious environment for the spread of HBV. It recommended that the vaccine not be given, but that stricter hygienic measures be instituted.

Dr. Lutz testified that elderly nursing home residents tend to be among the groups that carry the lowest risk of infection from HBV. He likened the danger of contracting HBV in a nursing home to the danger present in child care centers. This assessment was supported by Dr. Edward Septimus, director of the infectious diseases program at the Memorial Hospital System in Houston, Texas. According to Dr. Lutz, elderly people tend to be survivors who have generally been healthy up until their old age. They have not had a lot of trauma history or blood transfusions prior to the blood supply being tested for HBV. Furthermore, HBV is largely a behaviorally induced illness spread by activities generally not engaged in by the elderly. Neither Dr. Lutz nor Dr. Septimus were aware of any incident where a health care worker contracted HBV from a nursing home resident. Indeed, Dr. Septimus testified that he was not aware of any evidence that employees of United States nursing homes are at a greater risk of acquiring HBV than the general population.

II. EFFECTIVENESS OF THE VACCINE

It is the Secretary's position that, to free its workplaces from the hazard of the HBV virus, the nursing homes should have offered, free of charge, the HBV vaccine to all employees who could be exposed to blood or infectious bodily fluids. It is undisputed that when administered before exposure to the HBV virus, the vaccine is 90 to 95 percent

effective in preventing the onset of the disease. The vaccine can also be administered after exposure occurs.

Dr. Lutz testified that when it is given post-exposure, the vaccine has an effectiveness rate of about 95 percent. Dr. Lutz was unaware of any failure of the vaccine when it is started within seven days after exposure to a known needle stick. Dr. Lutz was also unaware of any study which showed that the vaccine was less effective when administered post-exposure and testified that, to his knowledge, the only known failure of the vaccine had occurred when administered before exposure to HBV. Ray Miller, ARA's loss prevention manager, testified that the post-exposure effectiveness rate of the vaccine is 90 percent. Similarly, Dr. Septimus testified that, when given in combination with immune globulin, the vaccine is over 90 percent effective when administered after exposure to HBV.

However, Dr. Timothy Townshend, who was hired by Smith, Kline, Beecham, a pharmaceutical manufacturer, to consult on a study to help determine whether to market the vaccine, testified that the effectiveness rate of the vaccine when given post-exposure is 50 to 70 percent. Dr. Townshend also testified, however, that the effectiveness of the vaccine when administered post-exposure, is increased when administered together with immune globulin.

III. THE NURSING HOMES

A. Population Profiles of Woodlake and Waldon

Waldon and Woodlake are intermediate care facilities that provide custodial and restorative care, which includes meals and medication.

The mean age of the residents at Woodlake is approximately 83 years old. In 1988, there were twenty-nine residents between the ages of 51 and 80. The residents are not pretested for HBV unless they come from a hospital.

Waldon is a 205-bed facility. In 1988 there were 110 residents between the ages of 51 and 80. In 1990, there were 116 in that age group.

B. Potential Employee Exposure to Blood

The degree of care required by the residents varies widely and includes feeding, dressing, grooming, and providing medication. The Secretary argues that, in the course of

these activities, there are several ways in which a nursing home employee is at risk of contacting the blood or sanguineous fluids (containing blood) of a nursing home resident. ARA, on the other hand, stresses that nursing home employees seldom come into contact with blood. For example, Terri Lynn Williams, director of nurses at Woodlake from May 1987 to May 1990, testified that, at Woodlake, employees were only infrequently exposed or potentially exposed to blood. Nurse Williams testified that she has never gotten blood from a resident on her skin and was unaware of any employee who had. Nurse Williams opined that it was highly unlikely that blood or other bodily fluids containing blood would get on an employee's skin, and concluded that, at Woodlake, employee exposure to HBV was not considered a particular hazard. She testified that the only possible exposures could occur when giving injections or dressing decubitus ulcers and skin tears.

Lorraine Moriarity, a nurse coordinator for ARA, oversees thirty-eight to forty ARA nursing homes throughout the Eastern United States. She testified that there was not a substantial risk of blood exposure from injections, dressing, finger sticks, linen changes, skin tears, inserting or changing catheters, cleaning or feeding patients, or treating decubitus ulcers. She agreed there is a possibility of accidental or extraordinary circumstances leading to exposure to blood, but believed that the odds of such an incident occurring are minimal. She testified that the risk of exposure to blood among employees at a nursing home was about the same as that for the public at large. Moriarity stated that nursing home employees are not exposed to blood on skin more than once a week. She also testified that, although she has worked in nursing homes for approximately twelve years, she has never gotten a patient's blood on her skin.

Moreover, ARA notes that its health care workers take universal precautions when they are in situations that could potentially expose them to blood or other infectious bodily fluids. Universal precautions are those precautions against infected blood or other bodily fluids that are applied when dealing with all patients. These include having the health care worker (1) use barrier protection (*i.e.*, rubber gloves); (2) wash hands after coming into contact with blood or other potentially infectious fluids; (3) take precautions to prevent injuries caused by scalpels, needles and other sharp instruments; (4) minimize need for mouth-to-mouth resuscitation; (5) avoid direct contact with patients when the health care

worker has an exudative lesion or weeping dermatitis; and (6) take special care to implement these precautions when pregnant.

Compliance officer Ritchie Hofmann testified that, during his inspection of Waldon, he was told by employees that they were exposed to blood when changing linens, when giving injections, when changing dressings on wounds, and from bites. The only procedure Hofmann actually witnessed that had the potential for exposure was the changing of soiled linens. However, the record does not indicate if the linens were soiled with blood. Nor does it indicate whether Hofmann actually saw anybody contact blood or perform a task that would entail contact with blood. Based on his inspection notes, Hofmann stated that there is very little direct contact with blood or bodily fluids at Waldon. He also testified that, to the best of his knowledge, blood splashing does not occur in nursing homes. The compliance officer observed what appeared to be bloody bandages sealed in a plastic bag, but he did not see any patients with wounds.

The evidence shows that the potential for blood exposure at these nursing homes exists during one of several medical procedures and events: the care of skin tears and sores, injections, bites, and the insertion/withdrawal of catheters and other tubes.

1. Skin Tears and Sores

The skin of geriatric patients is not very pliable and tends to tear easily. Their skin can tear if they kick a side rail or hit the side of their wheelchair while being transferred between their bed and wheelchair. These tears may exude some amount of blood, depending on the depth of the tear and the medical history of the patient, but they usually involve only minimal bleeding. The bleeding usually stops by the second treatment. Later, the wound may exude lymphatic fluid that could be sanguineous.

At Woodlake, of the approximately eighty residents, fewer than ten would suffer a skin tear on any given day. Once a tear occurs, a nurse will get a doctor's order to treat the wound. This process takes about five minutes. If the patient is bleeding, a towel or compress is used to catch the blood. If, for example, a leg has to be placed on the towel, the nurse's aid or Licensed Vocational Nurse ("LVN") picks up the leg and places it on the towel. Generally, rubber gloves for these employees are not available until a nurse brings

the equipment necessary to treat the wound. After initial treatment, employees always wear gloves when treating or dressing these wounds.

Nurse Williams testified that, to her knowledge, no Woodlake employee has ever treated a wound (after the initial moment of injury) while not wearing gloves. This testimony was confirmed by Angie Rios, a licensed vocational nurse at Woodlake.

Shirley Jackson Rogers, a licensed practical nurse at Waldon, testified that there are times when nurses have to treat stage three to stage four wounds[4] at Waldon. When removed from the wounds, the bandages are usually saturated with some type of drainage, including blood or pus, depending on the severity of the injury. About 80 percent of the time, drainage will get on the linens. The linens are changed by nursing assistants who do not wear gloves. The linens also may be contaminated by stool or urine from the residents, both of which sometimes contain blood. However, as discussed previously, the evidence indicates that it is highly improbable that HBV can be transmitted through soiled linens.

Patients may also develop decubitus ulcers or bed sores. In first stage ulcers, the mildest type, there is usually no bleeding. As the ulcers of any stage begin to heal, however, a blister can appear that, when broken, produces fluid. There may not be any drainage in stage one. Drainage is most likely to occur in stage two to stage four ulcers. The fluid is usually not infected, and it consists of a serous, or light-yellow material, sometimes containing pus. According to Dr. Lutz, in the absence of visible blood in the fluid, this material is not considered to be a vehicle for HBV transmission.

At Woodlake, out of a population of eighty, less than 5 percent will have a decubitus ulcer on any given day. This number includes stage one ulcers which do not involve skin breaks and are more common than the stage two ulcers (that involve skin breaks). Only licensed personnel dress these wounds, and they wear gloves while tending the resident. Generally, such treatment is given only to stage two ulcers.

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[4] The higher the number, the more serious the wound. Stage one is generally a reddened area or a brush burn. At stage two, the break has a potential for infection that must be covered and contained. At stages three to four, skilled medical care is required.

2. Injections

Injections given in nursing homes can expose employees to blood under two circumstances. First, there is the possibility that the area injected will bleed. Generally, this risk exists only in intramuscular (into the muscle) and intravascular (into the vein) injections. The possibility of bleeding is highest for intravascular injections because the needle goes directly into the vein and could result in blood splattering. The danger of bleeding is minimal for subcutaneous injections, which use only ½-inch needles. Second, exposure to blood can arise from accidental needle sticks to employees. This danger can be substantially reduced by not recapping needles and disposing them in a Sharps container, a puncture resistant container made of very hard plastic.

Nurse Williams testified that at Woodlake most injections are subcutaneous injections for insulin that use a very small gauge needle. She testified that the danger of exposure to blood when giving subcutaneous injections was "extremely minimal." On rare occasions, however, insulin shots can produce blood. During her time at Woodlake, approximately six insulin injections were given daily to residents. One individual received vitamin shots, but that was discontinued. Vitamin shots are given with a one-inch needle. On rare occasions patients were injected with a "chemical restraint" when they became agitated.

Nurses Rios and Jackson testified that at Woodlake they generally give only insulin injections. Nurse Rios also stated that, infrequently in the past, she has given injections to quiet combative residents at Woodlake. Approximately twelve to fifteen injections are given daily at Waldon.

Both Waldon and Woodlake have taken steps to substantially reduce the hazard of needle sticks. At both facilities, needles are neither recapped nor bent and are disposed of in Sharps containers. Nurse Williams testified that she was not aware of any needle sticks having occurred at Woodlake. Similarly, Nurse Rios testified that she was unaware of any needle sticks having occurred at Waldon.

Other witnesses shed additional light on the history of needle sticks at the facilities. Ms. Moriarity testified that Waldon employees incurred five needle sticks over the past three years. That number, she stated, though higher than most ARA nursing homes, is fairly small. Ray Miller, ARA's loss prevention manager, testified that in 1989, out of 916

positions surveyed in twenty-two ARA facilities, there were six needle sticks. These positions represented 1558 nursing home residents.

Moriarity testified about Waldon's procedure's regarding needle sticks. All needle sticks are reported to supervisory personnel and an incident report is filled out. She explained that when a needle stick occurs, the patient is asked to submit to both HBV and HIV tests. If the patient or the patient's physician refuses the tests, the medical director is called. The employee involved is tested as soon as possible, medicine may be prescribed, and the employee is counseled and urged to report any kind of a febrile illness that he or she may experience up to twelve weeks after exposure. According to Moriarity's records, none of the patients involved in any needle sticks have tested positive for either HBV or HIV. However, should a patient test positive for HBV, the physician could prescribe a combination of immune globulin and the HBV vaccine. As discussed earlier, the evidence establishes that this treatment is approximately 90 to 95 percent effective in preventing the onset of HBV.

3. Bites

Research conducted on HBV has disclosed one case in which the transmission of the HBV virus occurred when an individual stuck his cut finger into the mouth of an HBV-positive person who was choking. Generally, however, the oral route is considered a very inefficient route of transmission for the HBV virus.

Both Nurse Williams and Nurse Rios testified that, at Woodlake, they were unaware of any incident in which a resident bit an employee. On the other hand, Nurse Rogers testified that she was familiar with five to six incidents where employees were bitten. Some of these bites drew blood. She pointed out that many residents are confused and disoriented and bite when they think they are in danger. Nurse Rogers also pointed out that nursing assistants often remove residents' dentures. Although the assistants usually wear gloves when removing dentures, it is not mandatory.

4. Other Medical Procedures

The Secretary argues that employees are potentially exposed to blood while performing other types of medical procedures, such as glucose tests, catheterization, and other tubal insertions.

Generally, employees at Waldon and Woodlake do not draw blood from the residents. However, the evidence establishes that employees at Waldon do perform finger sticks for glucose tests. At Woodlake, glucose tests are contracted out and, therefore, are not performed by employees.

At Waldon, glucose tests are performed by a licensed nurse. The nurse cleanses the patient's finger with an alcohol dab, sticks the finger with a lancet, and squeezes out a spot of blood. With the other hand, the nurse takes a dip stick and takes up the blood. The stick is then inserted into a machine that reads the glucose level of the blood. There is no substantial risk of contact with blood during the procedure.

At Woodlake, with a resident population of eighty, fewer than five residents are catheterized. Generally, employees are not exposed to blood while inserting or removing the catheter. Nonetheless, employees wear gloves that come with part the catheterization kit during the procedure. These gloves are used primarily to maintain a clean environment for the patient.

There are also residents at Waldon who require nasal-gastric or gastric tubes. These tubes are essentially feeding tubes that go directly into the stomach. They are used to feed patients who cannot swallow and to administer certain medications. When these tubes are removed or slip out, the nurse must reinsert them into the patient. On occasion, blood and/or serum comes from the tube during the procedure. The number of patients with such tubes varies with the population at Waldon but generally ranges from one to three. When inserting or removing these tubes, the nurses wear protective gloves.

IV. DISCUSSION

To establish a violation of section 5(a)(1), the Secretary must prove that: (1) a condition or activity in the employer's workplace presented a hazard to employees, (2) the cited employer or the employer's industry recognized the hazard, (3) the hazard was causing or likely to cause death or serious physical harm, and (4) feasible means existed to eliminate or materially reduce the hazard. *Kastalon, Inc.*, 12 BNA OSHC 1928, 1931, 1986-87 CCH OSHD ¶ 27,643 p. 35,973 (Nos. 79-3561, 1986) (consolidated) ("*Kastalon*"); *Pelron Corp.*, 12 BNA OSHC 1833, 1835, 1986-87 CCH OSHD ¶ 27,605, p. 35,871 (No. 82-388, 1986).

To resolve this case, the Commission must decide whether: (1) given the circumstances existing at the cited nursing homes, ARA's employees were exposed to the risk of contracting HBV from the residents; (2) that hazard was causing or likely to cause death or serious physical harm; (3) ARA or its industry recognized the risk of employees contracting HBV; and (4) the Secretary established that offering employees the vaccine before exposure was a feasible means of materially reducing the hazard of contracting HBV.

A. Existence of a Hazard

Unlike the judge, we find that the Secretary did establish that the hazard of HBV transmission was present at both Waldon and Woodlake. Although the record indicates that the current resident populations are among the groups least likely to be HBV positive, various studies show that between one-quarter and 1 percent of nursing home patients can be expected to be HBV positive at any given time. Patients who are members of minority groups have an even higher likelihood of being HBV carriers. Woodlake is an 80-bed facility. Using infection rates most favorable to the nursing homes, there is a 20 percent chance that at least one resident at Woodlake is HBV positive. Using the higher carrier rates, there is an 80 percent chance that an HBV carrier is present in the resident population.

Although the percentage of potential carriers of HBV in the general population would be the same as in nursing homes, the risk of transmission of the HBV virus to employees differs from that of the general population because of their direct exposure to blood and other bodily fluids. It is this direct exposure to the bodily fluids of nursing home residents that constitutes the gravamen of the hazard.

Employees dress skin wounds, give injections, and perform glucose tests, as well as insert and remove both catheters and feeding tubes. Of particular concern is the treatment of skin wounds that often involves some bleeding. Unlike other events that could lead to blood contact, skin tears occur unexpectedly and in uncontrolled circumstances. When initially treating a skin tear, the employees usually do not wear gloves, thereby exposing themselves to blood contact and possible transmission.

While other procedures such as insulin injections, glucose tests, and the insertion and extraction of feeding tubes also create the possibility of blood contact, they occur under far

more controlled circumstances. However, these procedures can involve varying degrees of bleeding. The Texas Health Care Association AIDS Advisory Committee, in a report entitled "The Impact of Implementing Universal Precautions in Long Term Care Facilities," characterized patients who receive finger sticks and catheters and those who suffer from skin tears as "Frequently Bleeding Patients." The report stated that "[t]hese conditions or treatments expose the employee to a high degree of risk" from AIDS, which is transmitted in a manner similar to the HBV virus.

Although the evidence establishes that the risk of contacting blood during the various nursing home procedures is rather low, it is sufficient to raise the level of risk of transmission above that of the general population and expose employees to the hazard of contracting HBV from infected residents.

ARA reports that there is no case on record where a nursing home employee has contracted HBV from a nursing home resident. The absence of a recorded case of HBV transmission to an employee does not, however, establish that there has never been a case of HBV transmission from nursing home resident to nursing home employee. As the record also establishes, the transmission of HBV in nursing homes has not been substantially studied. Since the goal of the Act is to prevent the first accident, *General Electric Co.*, 10 BNA OSHC 2034, 2040, 1982 CCH OSHD ¶ 26,259, p. 33,164 (No. 79-504, 1982), the absence of any recorded case of HBV transmission from nursing home resident to nursing home employee is not dispositive. *See Secretary of Labor v. Union Oil of California*, 869 F.2d 1039 (7th Cir. 1989).

ARA argues that to prove the existence of a hazard within the meaning of the general duty clause, the Secretary cannot merely show that there may be some degree of risk of transmission to employees. Rather, it is argued, he must show, at a minimum, that employees are exposed to a significant risk of transmission. *Kastalon*, 12 BNA OSHC at 1932, 1986-87 CCH OSHD at p. 35,974. ARA concludes that because the evidence shows that the incidence of HBV at its facilities is no greater than that of the general population, the Secretary failed to show that the employees were exposed to a significant risk of contracting HBV.

ARA's argument is misplaced. In *Kastalon* the employers were charged with a violation of the general duty clause for exposing their employees to the chemical 4,4'-Methylene bis (2-chloroaniline) ("MOCA") a probable human carcinogen. Although the record showed that MOCA could cause cancer in humans, the record did not establish the exposure levels at which the chemical presented a cancer risk. Therefore, the Commission concluded that the Secretary failed to show that the employees were exposed to a significant risk of harm within the meaning of section 5(a)(1) of the Act.

The essence of the *Kastalon* holding is that when citing a violation of the general duty clause, the Secretary must establish that the cited condition actually poses a hazard to employees. As we pointed out in *Kastalon*, the general duty clause, while intended to protect employees from hazards that have yet to be addressed by standards, is not intended to replace standards as an enforcement mechanism. Therefore, when the Secretary proceeds under the general duty clause, he must meet the same minimal criterion regarding the nature of the alleged hazard as he does when promulgating a section 5(a)(2) standard. In *Industrial Union Dept. v. American Petrol. Inst.*, 448 U.S. 607, 655 (1980), the so-called "Benzene Case," the Secretary had sought to set new limits governing permissible employee exposure to benzene, a suspected human carcinogen. Proceeding on the assumption that no safe exposure limits could be established, the Secretary issued a standard reducing the allowable exposure to benzene to what was considered to be the lowest limit that the industry could feasibly achieve. The Supreme Court found insufficient evidence that there was a risk of contracting cancer at levels above these new limits. The Court invalidated the standard on the grounds that a precondition to the adoption of an OSHA standard was a finding that workers were exposed to a significant risk of harm.

Contrary to ARA's argument, to be consistent with the Supreme Court decision in the "Benzene Case," there is no requirement that there be a "significant risk" of the hazard coming to fruition, only that if the hazardous event occurs, it would create a "significant risk" to employees. *See Kelly Springfield Tire Co. v. Donovan*, 729 F.2d 317, 322-25 (5th Cir. 1984). There is no mathematical test to determine whether employees are exposed to a hazard under the general duty clause. Rather, the existence of a hazard is established if the

hazardous incident can occur under other than a freakish or utterly implausible concurrence of circumstances. *National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1265 n.33.

Under *Kastalon*, the Secretary must show that exposure to the blood or bodily fluid of a person infected with the HBV virus poses a hazard of transmission of the HBV virus.[5] The evidence in this case amply demonstrates that such exposures pose a hazard of transmission of HBV. The issue then becomes whether the ARA's employees were exposed to this hazard. As discussed earlier, the evidence establishes that, even though the likelihood of exposure to the virus is low, employees at the nursing homes could contract the HBV virus from residents under other than freakish or utterly implausible circumstances. We therefore conclude that the Secretary has established that ARA's employees were exposed to the hazard of contracting the HBV virus.

B. Causing or Likely to Cause Death or Serious Physical Harm

The evidence shows that contracting the HBV virus is likely to cause death or serious physical harm.

ARA argues that due to the unlikelihood of employee contact with the blood of the residents and the prophylactic measures already taken, it is not likely that HBV transmission would occur, and, therefore, the hazard is not likely to cause death or serious physical harm. The argument fails because, as the Commission has made clear, the criteria for determining whether a hazard is "causing or likely to cause death or serious physical harm" is not the likelihood of an accident or injury, but whether, if an accident occurs, the results are likely to cause death or serious harm. *R.L. Sanders Roofing Co.*, 7 BNA OSHC 1566, 1569, 1979 CCH OSHD ¶ 23,756, p. 28,805, *rev'd on other grounds*, 620 F.2d 97 (5th Cir. 1980).

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[5] In the usual case involving an alleged violation of the general duty clause, the hazardous nature of the underlying condition is presumed. No one questions whether an explosion, fire, or 20-foot fall can injure employees, *i.e.*, whether these events, if they occur, pose a significant risk of causing death or serious physical harm. The question in those cases usually involves whether the hazard exists, *i.e.*, whether the conditions that exist in the workplace can lead to the hazardous event.

ARA's claim that 90 to 95 percent of all HBV victims recover fully and that the disease is fatal only 1 percent of the time is self-defeating.[6] The record establishes that two-thirds of those people who contract the HBV virus will develop symptoms. Moreover, by ARA's own numbers, up to 10 percent of all HBV patients do not fully recover. Individuals who do not fully recover are at high risk of developing chronic persistent hepatitis (a mild form of hepatitis), chronic active hepatitis (a progressively debilitating form of hepatitis that leads eventually to cirrhosis of the liver), cirrhosis of the liver, and primary liver cancer. Approximately 25 percent of all chronic carriers develop chronic persistent hepatitis while another 25 percent develop chronic active hepatitis. And, of course, the disease is fatal to 1 percent of all HBV patients. This evidence amply demonstrates that a person who contracts the HBV virus is likely to suffer death or serious physical harm.

C. Recognition of the Hazard

In vacating the citations, the judge found that although HBV is a recognized hazard in some areas of the health care industry, it is not a recognized hazard among nursing home employees. The judge observed that the CDC recommendations for pre-exposure vaccination stated that the risk of occupational exposure to HBV depends upon the tasks performed and the frequency of exposure to blood and blood products. Although nursing homes were not mentioned, the document does provide that vaccination of employees in child care centers is not indicated. The judge noted that Dr. Lutz testified that child care centers present about the same risk of exposure to HBV as nursing homes. Although Dr. Townshend disagreed with the CDC, the judge noted that he acknowledged that he was not an expert in nursing homes. Therefore, the judge found that the Secretary failed to meet his burden of proving that HBV is a recognized hazard in the nursing home industry.

We disagree. Existence of the hazard and recognition of the hazard are two separate elements of a general duty clause violation. The likelihood of nursing home employees contracting HBV is relevant to whether a hazard existed at the nursing homes, not whether

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[6] ARA's argument implies that an injury or illness cannot cause serious physical harm unless the harm is permanent. We find no basis to support such a position and we do not accept it. For example, an employee who has suffered broken bones in a fall has incurred serious physical harm even though he or she may recover with no permanent side effects.

the hazard itself was recognized. Throughout this case, the ARA and the judge have erroneously treated these two separate elements interchangeably. A hazard is "recognized" within the meaning of the general duty clause if the hazard is known either by the employer or its industry. *Kastalon*, 12 BNA OSHC at 1931, 1986-87 CCH OSHD at p. 35,973; *Pelron Corp.*, 12 BNA OSHC at 1835, 1986-87 CCH OSHD at p. 35,871. Therefore, the first question is whether the nursing homes actually recognized that employee contact with the blood or potentially infectious bodily fluids of the residents created a hazard of transmission of the HBV virus. In our view, the record is clear that such actual recognition existed.

As the Secretary points out, the ARA Infection Control Manual frequently discusses measures to prevent the transmission of HBV.[7] For example, Chapters V-3 and V-4 discuss the CDC precautions against HBV and HIV and set forth "[t]he most important precautions that we should be taking with possible blood-borne pathogens . . . ." The manual also contains several appendices that clearly indicate recognition of the HBV hazard. Appendix H reprints the CDC document, *Update: Universal Precautions for Prevention of Transmission of Human Immunodeficiency Virus, Hepatitis B Virus, and Other Bloodborne Pathogens in Health-care Settings,* Morbidity and Mortality Weekly Report, Vol. 37, No. 24, (June 24, 1988). Appendix F is the "OSHA Document on Hepatitis B."

ARA cites *Kastalon* in support of its contention that measures it may have taken to prevent HBV transmission cannot be used to establish recognition of the hazard. The argument is without merit. In *Kastalon*, the Commission did not hold that precautions could not be used to establish recognition of a hazard but, rather, that those precautions could not be used to establish that the hazard posed a significant risk. In rejecting the employers' argument, the Commission found fault with the premise that an employer would not take precautions unless the hazard posed a significant risk. In the Commission's view, an employer might take precautionary measures out of an abundance of caution. The

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[7] According to a note in the exhibits file, Exhibit C-6, the ARA Infection Control Manual was being held in a separate loose leaf notebook, apart from the rest of the exhibits. However, the exhibit is missing from the record. The Secretary has quoted extensive portions of the manual in his brief. ARA has not alleged that the Secretary has either misquoted the manual or taken relevant portions out of context. Therefore, we rely on those portions of the manual quoted by the Secretary.

Commission concluded that to base a finding that a hazard exists *solely* on evidence that an employer has taken certain precautions would dissuade employers from taking voluntary protective measures beyond those the law requires. 12 BNA OSHC at 1932, 1986-87 CCH OSHD at p. 35,975.

The issue here, however, is not whether protective measures implemented by the employer can be used to establish that a hazard posed a significant risk, but rather whether those measures can be used to establish that the employer actually recognized the hazard. Commission precedent establishes that precautions taken by an employer can be used to establish recognition in conjunction with other evidence. *Duriron Co. v. Secretary*, 750 F.2d 28 (6th Cir. 1984); *Trinity Indus.*, 15 BNA OSHC 1481, 1485 n.8, 1992 CCH OSHD ¶ 29,582, p. 40,035 n.8 (No. 88-2691, 1992); *General Dynamics Land Systems Div., Inc.*, 15 BNA OSHC 1275, 1285, 1991 CCH OSHD ¶ 29,467, p. 39,757 (No. 83-1293, 1991), *aff'd without published opinion*, No. 91-4052 (6th Cir. Jan. 26, 1993) (consolidated) (safety bulletins issued by employer underscored actual recognition of hazard). The record contains ample evidence corroborating ARA's actual recognition of the hazard.

The ARA safety manual, in addition to setting forth precautionary steps to prevent the spread of HBV, includes sections that plainly show that ARA's health care centers recognized the hazard presented by HBV. Again, the CDC document attached to the ARA manual as Appendix H states, at pages 377-78, that "blood and certain body fluids of all patients are considered potentially infectious for human immunodeficiency virus, hepatitis B virus, and other bloodborne pathogens."

Moreover, testimony clearly indicated that ARA's officials recognized the risk of HBV transmission from contact with bodily fluids.[8] For example, Ms. Moriarity testified that she recognized that the HBV virus was dangerous and capable of causing serious physical harm.

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[8] While both officials testified that ARA did not recognize a hazard of HBV transmission, this asserted lack of recognition was based on (1) the lack of any reported cases of HBV transmission to nursing home employees, (2) the minimal employee exposure to blood, and (3) the implementation of universal precautions at the nursing homes. These matters, however, do not go to the recognition of the hazard, but to whether the workplace was free of a recognized hazard.

Similarly, there is no question that the health care industry in general, and the nursing home industry in particular, recognize that contracting the HBV virus can result in death or serious physical harm. All the witnesses and numerous exhibits admitted by the parties discussed the hazard posed by HBV. This evidence, while questioning the degree of risk posed by HBV to nursing home employees, all presumed that HBV was a serious disease that could be transmitted through contact with an infected person's blood or certain bodily fluids. Certainly, there is nothing in the record to indicate that ARA, the nursing home industry, or the health care industry in general would find otherwise.[9]

D. Feasible Means of Abatement

The final element the Secretary must establish in order to prove a violation of the general duty clause, is that there was a feasible means of either abating or materially reducing the hazard. *Baroid Division of NL Indus., Inc. v. OSHRC*, 660 F.2d 439 (10th Cir. 1981); *Cardinal Operating Co.*, 11 BNA OSHC 1675, 1677, 1983-84 CCH OSHD ¶ 26,652, p. 34,086 (No. 80-1500, 1983).

ARA argues that its policy of requiring the use of universal precautions and the availability of the HBV vaccine for employees exposed to needle sticks eliminated the hazard of HBV transmission to the extent feasible, and that the Secretary failed to establish that making the HBV vaccine available on a prophylactic basis would further materially reduce the hazard.

The Secretary, on the other hand, contends that ARA's use of universal precautions to protect its employees from HBV and other bloodborne pathogens reduces, but does not eliminate, the possibility that HBV could be transmitted from residents to employees. Requiring that employees be offered the option of receiving the HBV vaccine before exposure, the Secretary argues, would lower the odds of contracting the HBV virus to the lowest currently feasible levels.

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[9] The Secretary argues that the judge erred by basing his finding of a lack of recognition on the state of knowledge in the nursing home industry. The Secretary contends that the criteria should have been whether the risk of HBV transmission was recognized by "the health care industry in general". In view of our finding that the hazard was recognized by ARA and the nursing home industry we need not address the issue.

It is here that the Secretary's case fails. We find that, on the record before us, the Secretary failed to establish that offering the pre-exposure vaccination to employees would materially reduce the likelihood of HBV transmission or that such a vaccination program was feasible.

ARA requires that its employees use universal precautions when actually or potentially exposed to blood. Given the lack of any recorded case of HBV transmission from a nursing home patient to an employee, these measures have apparently been successful in preventing transmission of the disease.[10] However, as discussed *supra*, employees are subjected to the occasional skin stick from needles. These skin sticks circumvent the use of universal precautions and expose the employee to the transmission of such bloodborne pathogens as the HBV virus.

While this evidence might suggest that pre-exposure treatment is appropriate, an employer may defend against a general duty clause citation by demonstrating that it was using an abatement method that is as effective as the one suggested by the Secretary. *Brown & Root, Inc.*, 8 BNA OSHC 2140, 2144, 1980 CCH OSHD ¶ 24,853, p. 30,656 (No. 76-1296, 1980). At Waldon and Woodlake, when an employee suffers a skin prick, the patient is asked to submit to an HBV test. If the resident or the resident's physician refuses the test, or should the resident test positive for HBV, the employee is offered a combination of immune globulin and the HBV vaccine. The evidence establishes that this treatment is at least 90 percent effective in preventing the onset of HBV, virtually the same effectiveness rate as when given prophylactically.

The Secretary contends that such post-exposure vaccination is inferior to prophylactic vaccination because (1) the employee may not know that he or she suffered a skin prick or was otherwise exposed to blood, and (2) the employee may not seek post-exposure vaccination. As to the first scenario, there is no evidence to support a conclusion that an employee would not be aware of having been accidentally, and most certainly painfully, stuck

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[10] As noted earlier, however, the absence of any recorded case of HBV transmission from a nursing home patient to an employee does not establish that such transmission has never occurred. However, since the burden of establishing feasibility falls on the Secretary, the absence of such evidence does tend to show that measures currently taken by the nursing homes are successful in preventing the transmission of HBV.

with a hypodermic needle. As to the second contention, it is more likely for an employee who was stuck with a hypodermic needle to accept the offer of the HBV vaccine than it would be for an employee to submit to vaccination before any hazardous exposure took place. Moreover, any employee who would refuse the vaccine after receiving a needle stick would also refuse to submit to the vaccine as a prophylactic measure. In sum, given the measures that ARA already takes to prevent its employees from contracting HBV, we find that its abatement method is as effective in materially reducing the hazard of HBV transmission as the one proposed by the Secretary.

Even if we were to find that pre-exposure vaccination provided material reduction of the hazard beyond that already offered by ARA, the Secretary would still have to show that it was feasible for the cited nursing homes to provide the vaccine prophylactically.[11] *Tampa Shipyards, Inc.*, 15 BNA OSHC 1533, 1535, 1992 CCH OSHD ¶ 29,617, p. 40,097 (Nos. 86-360 & 86-469, 1992). We find that, on this record, the Secretary failed to establish that it would be economically feasible to require ARA to provide the vaccine to its employees on a prophylactic basis.

One of the criteria for determining whether a proposed measure of abatement is feasible is whether the proposed measure is cost prohibitive. *General Dynamics*, 15 BNA OSHC at 1287, 1991 CCH OSHD at p. 39,759. Under the general duty clause, an employer is not required to adopt measures that would threaten its economic viability. *National Realty*, 489 F.2d at 1266 n.37.[12] One issue to consider when determining whether

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[11] Because the Commission finds that the Secretary of Labor failed to establish that prophylactic administration of the HBV vaccine would materially reduce the hazard of HBV transmission beyond that accomplished by ARA's vaccine programs, Commissioner Montoya finds it unnecessary to address the issue of economic feasibility, and therefore abstains from that discussion.

[12] We find *National Realty* to be particularly relevant to this case. In that case, the court indicated that where under the general duty clause a method of abatement may be prohibitively expensive for a given employer, the Secretary could still require that measure to be taken industry-wide by promulgating regulations, subject to advance industry comment. 489 F.2d at 1266 n.37.

Such is the situation here. On this record, the Secretary has failed to establish the economic feasibility of requiring the cited employers to provide the vaccine to employees on a prophylactic basis. However, since issuance of these citations, the Secretary promulgated regulations requiring such prophylactic vaccination after determining that, for the industry as a whole, the measure was economically feasible. If this matter had arisen

(continued...)

abatement is economically feasible is whether the cost of compliance would jeopardize a company's long-term profitability and competitiveness. *Sun Ship, Inc.*, 11 BNA OSHC 1028, 1033, 1983-84 CCH OSHD ¶ 26,353, p. 33,421 (No. 16118, 1982). Another factor relevant to that consideration is whether the employer can pass the costs on to the customer. *Walker Towing Corp.*, 14 BNA OSHC 2072, at 2077 n.9, 1991 CCH OSHD ¶ 29,239, p. 39,161 n.9 (No.87-1359, 1991).

The record shows that the cost for a single series of the vaccine for one person is $120 to $125. The only evidence as to the total potential cost of providing the vaccine to all eligible employees was presented by ARA. When labor, doctors' fees, employee turnover and related costs are included, ARA estimates that it would cost $38,533 annually to offer the vaccine at Woodlake, and $108,339 at Waldon. These figures are not disputed by the Secretary.

As to whether providing the vaccine to all exposed employees on a prophylactic basis would jeopardize the homes' long term profitability and competitiveness, the record is silent as to the profits or economic condition of the two nursing homes. Although the evidence establishes that the nursing home industry is a very competitive and highly regulated business and a large portion of nursing home costs are paid by Medicare, which provides limitations on what a nursing home can charge, the Secretary has not established that at least part of these vaccinations costs can be passed on.

Thus, on this record, it is not possible to determine whether the nursing homes could have absorbed or passed on the significant costs of prophylactic vaccination without endangering their economic position. Moreover, given that there are no significant benefits to be gained by requiring that the vaccine be given prophylactically, rather than post-exposure, the record fails to demonstrate that the substantial cost of providing the vaccine to all employees who might be exposed to blood was reasonable or practical.

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[12](...continued)
under these standards, the burden would have been on the employers to establish, as an affirmative defense, that compliance is economically infeasible. *Walker Towing Corp.*, 14 BNA OSHC 2072, 2077, 1991 CCH OSHD ¶ 29,239, p. 39,161 (No. 87-1359, 1991). *See supra* note 1.

Therefore, on this record, we find that even if we had found the Secretary's proposed abatement method provided a material reduction of the hazard beyond that provided by ARA, the Secretary failed to fulfill his burden of establishing that it was economically feasible for ARA to have made the HBV vaccine available to their employees on a pre-exposure basis.

V. ORDER

Accordingly, the judge's decision, as modified above, vacating the citations for violations of section 5(a)(1) of the Act is AFFIRMED.

Edwin G. Foulke, Jr.
Chairman

Donald G. Wiseman
Commissioner

Velma Montoya
Commissioner

Dated: April 2, 1993

UNITED STATES OF AMERICA
OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION
1825 K STREET NW
4TH FLOOR
WASHINGTON, DC 20006-1246

SECRETARY OF LABOR, Complainant, v. WALDON HEALTH CARE CENTER, Respondent.	Docket No. 89-2804

SECRETARY OF LABOR, Complainant, v. ARA WOODLAKE NURSING HOME, Respondent.	Docket No. 89-3097

NOTICE OF COMMISSION DECISION

The attached decision by the Occupational Safety and Health Review Commission was issued on April 2, 1993. **ANY PERSON ADVERSELY AFFECTED OR AGGRIEVED WHO WISHES TO OBTAIN REVIEW OF THIS DECISION MUST FILE A NOTICE OF APPEAL WITH THE APPROPRIATE FEDERAL COURT OF APPEALS WITHIN 60 DAYS OF THE DATE OF THIS DECISION.** See Section 11 of the Occupational Safety and Health Act of 1970, 29 U.S.C. § 660.

FOR THE COMMISSION

Ray H. Darling, Jr.

April 2, 1993
Date

Ray H. Darling, Jr.
Executive Secretary

Docket Nos. 89-2804 & 89-3097

NOTICE IS GIVEN TO THE FOLLOWING:

Daniel J. Mick, Esq.
Counsel for Regional Trial Litigation
Office of the Solicitor, U.S. DOL
Room S4004
200 Constitution Ave., N.W.
Washington, D.C. 20210

James E. White, Esq.
Regional Solicitor
Office of the Solicitor, U.S. DOL
Suite 501
525 S. Griffin Street
Dallas, TX 75202

Jeffrey C. Londa, Esq.
Steve C. Meisgeier, Esq.
Hutcheson & Grundy
Citicorp Center
1200 Smith Street, Suite 3300
Houston, TX 77002-4579

Kathleen M. Kordeleski, Esq.
Service Employees
International Union
1313 L Street, N.W.
Washington, DC 20005

Louis G. LaVecchia
Administrative Law Judge
Occupational Safety and Health
Review Commission
Federal Building, Room 7B11
1100 Commerce Street
Dallas, TX 75242-0791

UNITED STATES OF AMERICA

OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION

SECRETARY OF LABOR, Complainant, v. WALDON HEALTHCARE CENTER, Respondent.	:	OSHRC DOCKET NO. 89-2804
SECRETARY OF LABOR, Complainant, v. ARA WOODLAKE NURSING HOME, Respondent.	:	OSHRC DOCKET NO. 89-3097

APPEARANCES:

Brian L. Pudenz, Esquire
Anthony G. Parham, Esquire
Dallas, Texas
For the Complainant.

Jeffrey C. Londa, Esquire
Steve C. Meisgeier, Esquire
Houston, Texas
For the Respondent.

DECISION AND ORDER

LAVECCHIA, Judge:

This is a proceeding brought before the Occupational Safety and Health Review Commission ("the Commission") pursuant to § 10 of the Occupational Safety and Health Act of 1970, 29 U.S.C. § 651 et seq. ("the Act").

ARA Living Centers ("ARA") operates approximately 230 nursing homes in 13 states. The Occupational Safety and Health Administration ("OSHA") inspected two ARA facilities, Waldon HealthCare Center ("Waldon"), in Kenner, Louisiana, and ARA Woodlake Nursing Home ("Woodlake"), in Clute, Texas, on May 10 and August 16, 1989, respectively. The inspections resulted in the issuance of one serious and one "other" citation to each facility. Woodlake contests item 1 of the serious citation, which alleges a violation of § 5(a)(1), the general duty clause. Waldon contests all three items of the serious citation, which allege violations of § 5(a)(1) and 29 C.F.R. §§ 1910.132(a) and 1910.145(f)(8).[1] The cases were consolidated and a hearing was held September 24-26, 1990. The alleged violations are discussed below.

§ 5(a)(1)

The general duty clause requires each employer to:

> furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.

The contested citation items are substantially similar. They allege that health care workers at Waldon and Woodlake were exposed to the hazard of being infected with the hepatitis B virus ("HBV") through possible direct contact with blood or other body fluids, and that a feasible and useful abatement method for reducing the hazard is to offer employees HBV vaccinations. The Secretary's

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[1]Since the "other" citations were not contested, they have become final orders of the Commission by operation of law, as have the two uncontested items of the serious citation issued to Woodlake.

position, based on OSHA Instruction CPL's, is that HBV vaccinations must be offered without charge to employees at substantial risk of directly contacting body fluids. See C-7 and C-8, p. 20, and C-9, p. 15. It is undisputed that Waldon and Woodlake do not offer such vaccinations. However, Respondents contend the failure to do so does not constitute a violation.

The record shows that Waldon is a 205-bed facility employing approximately 30 nurses and 63 nurse's aides. Woodlake is a 94-bed facility employing approximately 10 nurses and 22 nurse's aides. The majority of residents at both facilities are female and the average age is the low to mid-80's. The care provided is largely custodial, and includes bathing, dressing, grooming, feeding and giving medication. (Tr. 114; 117-18; 139-42; 156; 260; 268-69; 279; 299; 379-80; 384-87; 394; 409-15; 420-21; 432-33; R-14).

No IVs are given at the facilities, and employees do not draw blood. Injections are almost exclusively insulin and are given by nurses; 12-15 are given per day at Waldon; about 6 are given per day at Woodlake. Only disposable needles are used; they are not recapped and are disposed of in a sharps container. Woodlake has had no reported needlesticks in the past three years; Waldon has had five. When such injury occurs, a report is made and tests for HBV and human immunodeficiency virus ("HIV") are conducted to check for possible transmission. There was no evidence an ARA resident had ever infected an employee with HBV or HIV. (Tr. 114; 118; 129-32; 143-46; 153; 178; 262; 267; 277; 279-83; 299-300; 305-06; 388; 396-97; 416-18; 435-36; 456; 472-77; 481; C-6; R-14-15).

Nurses dress the occasional wounds which occur on residents. Decubitis ulcers, or pressure sores, require dressings for 2-4 weeks; they generally have no blood and any fluid dries up after a day or two. Skin tears require dressings for 1-2 weeks. The initial trauma of a tear can produce a small amount of bleeding; it generally has no blood after the first day, but may secrete some fluid. The nurse or aide discovering the tear, who may not be wearing gloves, applies a towel or compress and calls a physician for instructions. Nurses dress wounds twice a day, and wear gloves when doing so.[2] An average of 37 dressing changes per day occur at Waldon; an average of 16 per day occur at Woodlake. (Tr. 118-29; 146-53; 263-66; 270-76; 287-91; 295-98; 302-11; 397-99; R-14).

Nurses at Waldon perform daily finger pricks for glucose tests; no finger pricks are performed at Woodlake. Residents at both facilities occasionally require catheters and nasal-gastro tubes, which can present a possibility of exposure to blood; nurses use gloves when handling these objects. Residents at both homes are sometimes assisted in removing dentures. If the resident is unconscious, gloves are worn; if conscious, gloves may not be worn. Woodlake has had no biting incidents, but there was some evidence

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[2]Although one nurse employed at Waldon testified she did not wear gloves unless a doctor instructed her to do so, the testimony of three other ARA nurses was that the procedure is to wear gloves when dressing wounds. The testimony of the nurses also indicated that surgical wounds at the facilities are infrequent, that such wounds are usually closed and dry, and that if they are not, they are attended by physicians. (Tr. 155-56; 268; 275; 278-79; 288-89; 309-10).

this had occurred at Waldon.[3] (Tr. 130; 153-55; 174-78; 260-63; 268-69; 273-77; 286; 291-95; 310-11; 401-08; R-13-14).

ARA has a written infection control program which applies to employees with resident contact and includes the universal precautions outlined by the Centers for Disease Control ("CDC"). Employees are trained in the program, and copies of it are kept at facility nurse stations. Nurses and aides are instructed to wear gloves when visible blood is present. Aides do not wear gloves when changing bed linen, which can be soiled with blood or wound drainage; however, ARA nurses described the presence of blood on linen as infrequent and negligible, and the risk of contact with blood in general as minimal or unlikely.[4] Although ARA residents do not undergo pre-admission HBV or HIV testing, there was evidence their medical histories generally indicate a lack of infection. (Tr. 123; 133-34; 138-39; 143-44; 155; 159; 168; 178-79; 185-92; 266-67; 270; 272; 280-81; 289; 298; 304; 308; 383-84; 388-92; 398-99; 402-04; 426-41; 458-60; C-6; R-6; R-14; R-16).

The record further shows the residents and care at Waldon and Woodlake are typical of the industry, and that nursing homes do not have the invasive procedures offered in hospitals, such as surgery,

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[3]A nurse employed by Waldon for 12 years testified she was aware of 5-6 such instances, and had known of such instances drawing blood. Ritchie Hofmann, the OSHA industrial hygienist who inspected Waldon, testified an employee told him about a resident biting an employee. (Tr. 195-96; 203-08; 246-48; 257; 269).

[4]Ritchie Hofmann himself testified employees at Waldon had very little direct contact with blood or body fluids. (Tr. 235).

IVs and blood drawing, which would create a greater potential for exposure to blood, and, consequently, HBV. HBV has decreased among health care workers since the use of universal precautions, which prohibit needle recapping and require the use of gloves or other protections when visible blood is present. Of the HBV cases that occur in the U.S., 1% are fatal and 90-95% recover satisfactorily; the majority of infected adults have no symptoms. Infection occurs primarily in young adults, and studies indicate a low incidence among the elderly of positivity for the HBV surface antigen required to be infectious. (Tr. 30; 36-37; 49-60; 86-90; 160-64; 334-35; 342; 346; 352; 358-59; 374-75; 385-88; 394-95; 444; 448; 510-11; 519; 530-36; 545-46; C-2-3; R-1; R-4; R-11 [pgs. 13-19, 26-27, 31-32; 35-36, 55-58]).

Finally, the record shows that in May, 1989, OSHA issued a proposed rule in regard to occupational exposure to bloodborne pathogens. The rule, which is not yet finalized, would require employers to offer HBV vaccinations to employees exposed to blood or other potentially infectious materials on an average of one or more times per month. During the notice and comments period the American Health Care Association ("AHCA"), which represents the nursing home industry, submitted reports and testimony of industry representatives in support of its opposition to the proposed rule; the thrust of these submissions is that HBV is not a recognized hazard in the industry and that providing the vaccination would be economically infeasible. ARA is a member of AHCA and participated in this process. (Tr. 314-21; 475-76; 478; 483-97; R-8, p. 23,127;

R-11 [pgs. 6; 19-24; Exh. 1-2]; R-20-22).

The foregoing summarizes the essentially undisputed evidence of record. The testimony of three physicians knowledgeable in infectious diseases was also presented. Because it is particularly illuminating in regard to the issues in this case, a brief summary of the relevant testimony of each physician follows.

Timothy Townsend, M.D., is board certified in pediatrics. He is an associate professor of pediatrics and epidemiology, and the senior director for medical affairs at Johns Hopkins. He was previously the hospital epidemiologist at Johns Hopkins; in that position, he directed the infection control program. He has done HBV research and has been a consultant to CDC in regard to HBV. (Tr. 6-13; 17; 20; 23-24; C-1-3).

Dr. Townsend testified that vaccination is the primary means of preventing HBV transmission, and that on his recommendation, Johns Hopkins vaccinates employees who have contact with blood or other infectious fluids more than once per week. He said it is contact with these fluids which creates a risk, and that employees with infrequent contact are no more likely to be HBV-infectious than healthy adults. He agreed generally with CDC's vaccination recommendations, except in regard to child care centers. He said he was more conservative than CDC in this regard, and indicated he would support vaccinations in child care centers. Townsend does not consider himself an expert in nursing homes, but views them as part of the health care industry. (Tr. 25-29; 35-40; 44-45; 73-75; 77-80; 85; 106; R-1-3).

Dr. Townsend further testified that HBV in nursing homes was not well studied, and that he knew of only two reports indicating transmission in that setting. C-4 shows transmission occurred in a Swedish home from sharing bath brushes, and C-5 shows it occurred in three Italian homes from using nondisposable needles and shaving materials. Dr. Townsend noted HBV prevalence in Italy is probably somewhat higher than in the U.S. He knew of no studies regarding the need for HBV vaccinations in nursing homes other than R-5, a Canadian study concluding they were not needed. He was aware of no cases of nursing home residents infecting employees, or of any U.S. studies in that regard. (Tr. 29-34; 52; 64-65; 91-97).

Frank Lutz, Jr., M.D., is the director of the New Orleans Health Department and is board certified in internal medicine. He has been a nursing home medical director, and visits homes on a regular basis in connection with his private practice. He is also a board member of a group which advocates the interests of nursing home residents. He deals with HBV in his position, and is knowledgeable in HBV literature. (Tr. 330-33; 376-77; R-12).

Dr. Lutz testified he knew of no U.S. cases in which a nursing home resident had transmitted HBV to an employee. R-5 was the only North American study he was aware of dealing with HBV in nursing homes; it concluded HBV was not a problem, even though a resident of seven years was found to be infectious, because no transmission had occurred. Dr. Lutz said that C-4 and C-5 are not significant in regard to U.S. nursing homes; C-4 is dated, Italy has a higher prevalence of HBV, and disposable needles and shaving materials are

used in U.S. nursing homes. (Tr. 333-34; 341-46; 349-51).

Dr. Lutz further testified that although HBV is a recognized hazard in certain portions of the health care industry, it is not recognized as a hazard for nursing home employees; if it were, it would be reported. He offered his opinion that nursing homes are a separate industry because the exposure to blood and body fluids is much less than in hospitals. He said it would be difficult to find a population less at risk of being HBV-infectious than nursing home residents, as they are primarily elderly people who have been healthy most of their lives. He agreed with CDC's vaccination recommendations, and said the risk of exposure to HBV in child care centers is about the same as that in nursing homes. (Tr. 334-37; 341-43; 354-56; 365; 367; 370-72; R-3).

Edward Septimus, M.D., is board certified in internal medicine and infectious diseases. He is the academic chief of infectious diseases and director of the infectious disease program at the Memorial Hospital System of Houston, which consists of a teaching hospital and two community hospitals. He has conducted HBV research and has consulted with nursing homes regarding infection control. (Tr. 506-13; R-27; R-29).

Dr. Septimus testified that risk of transmission depends on both the person contacted and the frequency of blood contact. He does not consider the typical nursing home resident population a high-risk group. He noted that a ward nurse at an acute hospital who does not give IVs or draw blood would have about the same exposure to blood as that of a nursing home nurse. He considers

such exposure infrequent, and said that studies have shown that health care workers with infrequent blood contact have no greater risk in regard to HBV than the general population. He prepared R-28, in which he concluded that health care employees with frequent blood contact should be vaccinated; he said CDC agrees with this view. He also evaluated the proposed standard in connection with his position; his opinion, which was conveyed to OSHA, was that the standard was excessive and would provide no additional benefit to employees. Dr. Septimus noted that Memorial vaccinates nurses in units such as hematology, where exposure is greater, but does not vaccinate the average floor nurse. (Tr. 514-17; 521; 528-29; 531-32; 540-41; 545-46; 549-53; R-30-31).

Dr. Septimus was unaware of any case in which a nursing home resident had transmitted HBV to an employee. R-5 was the only North American study he knew of which had analyzed the need for HBV vaccinations. He considered C-4 and C-5 generally inapplicable because there are no shared personal items or nondisposable needles used in U.S. nursing homes, but noted that C-4 supported his impression of the risk of HBV in nursing homes; it showed that while transmission had occurred among residents, none had occurred among employees. (Tr. 536-38; 546).

To prove a violation of § 5(a)(1), the Secretary must show that (1) a condition or activity in the workplace presented a hazard, (2) the employer or the employer's industry recognized the hazard, (3) the hazard was likely to cause death or serious physical harm, and (4) feasible means existed to eliminate or

materially reduce the hazard. Pelron Corp., 12 BNA OSHC 1833, 1986 CCH OSHD ¶ 27,605 (No. 82-388, 1986); United States Steel Corp., 12 BNA OSHC 1692, 1986 CCH OSHD ¶ 27,517 (No. 79-1998, 1986).

In this case, the most significant of the above requirements is (2). It is clear from the record that HBV is a recognized hazard in some areas of the health care industry. However, it is equally clear that the risk of exposure to HBV varies considerably among health care employees, depending on the frequency of exposure to blood and the population served. Respondents contend that HBV is not a recognized hazard in the nursing home industry because of the services it provides and the population it serves.

The record shows that while nurses and aides at Waldon and Woodlake have some exposure to blood, the exposure is infrequent and minimized by the use of gloves and the prohibiting of needle recapping. The record also shows that nursing home residents are considered a low-risk group for HBV. However, even more significant is the fact that there have been no reported cases in which a nursing home resident has transmitted HBV to an employee. That no transmission has occurred demonstrates that HBV is not a recognized hazard for nursing home employees.

This conclusion is not inconsistent with R-3, which sets out CDC's recommendations for preexposure vaccination. R-3 states, at page 14, that the risk of occupational exposure to HBV depends upon tasks performed and the frequency of exposure to blood and blood products. It does not mention nursing homes, but does provide, at page 16, that vaccination of contacts of carriers in child care is

not indicated.[5] According to Dr. Lutz, child care centers have about the same risk of exposure to HBV as nursing homes. Dr. Townsend did not agree with CDC in this regard; however, he acknowledged his position is more conservative than that of CDC. He also acknowledged he is not an expert in nursing homes. In any case, he did not testify that nursing home employees should be vaccinated. His testimony, in fact, taken together with that of Dr. Lutz and Dr. Septimus, supports a conclusion that vaccinations are not indicated for nursing homes.

Based on the foregoing, it is clear the Secretary has not met her burden of proving HBV to be a recognized hazard in the nursing home industry. She has also failed to prove the first and third requirements of a § 5(a)(1) violation, to wit, that the cited activity or condition presented a hazard that was likely to cause death or serious physical harm. Because the Secretary has failed to show three of the four requirements necessary to establish a general duty clause violation, the fourth requirement need not be discussed. The citations are vacated.

29 C.F.R. § 1910.132(a)

The subject citation alleges as follows:

> Protective equipment was not used when necessary whenever hazards capable of causing injury and impairment were encountered: The employer did not ensure the use of protective gloves for nursing assistants removing soiled

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[5]This provision suggests vaccination might be indicated if special circumstances exist, such as biting or severe skin disease. While residents in the facilities have occasional wounds, nurses use gloves when dressing them. Moreover, even though biting has apparently occurred at Waldon, the evidence suggests such incidents are very infrequent (5-6 incidents in 12 years).

linen from beds; thus exposing employee(s) to the hazard of being infected by HBV/HIV through possible direct contact with blood or other body fluids.

The foregoing discussion shows that nurse's aides at Waldon do not use gloves when changing linen, which can be soiled with blood and wound drainage. Although it also indicates that this activity would be unlikely to result in infection, the evidence relating to this specific citation item is set out below.

Dr. Townsend testified that HBV and HIV are both transmitted through direct contact with blood or other infectious body fluids. He said that transmission occurs most efficiently through injection or contact with breaks in the skin, and that it can occur when employees with cuts or scrapes on their hands handle bed linen or bandages soiled with blood or wound drainage without gloves. He noted that HBV can survive in the environment for up to two weeks. (Tr. 25-29; 41-42; 107).

Dr. Lutz testified that HBV and HIV are not transmitted by contact with bed linen. He knew of no cases in which this had occurred, and pointed out that laundry workers and hotel maids are not at an increased risk for infection. He said a live virus must penetrate skin for transmission to occur. He did not believe it was possible for this to happen through handling virus-tainted linen, even if it contacted an open wound. He noted that the capacity of a bloodborne virus to infect decreases markedly with drying and the passage of time. (Tr. 356-58; 368-370; 374).

Dr. Septimus testified that he knew of no cases in which HBV or HIV had been transmitted from laundry or linens, and that he did

not consider handling linen a high-risk activity in regard to either virus. (Tr. 529-30).

The record demonstrates a difference of opinion between the Secretary's witness and Respondent's witnesses. The opinions of Dr. Lutz and Dr. Septimus, however, are more consistent with CDC universal precaution recommendations. R-1 states, at page B-9, as follows:

> Although soiled linen has been identified as a source of large numbers of certain pathogenic microorganisms, the risk of actual disease transmission is negligible. Rather than rigid procedures and specifications, hygienic and common-sense storage and processing of clean and soiled linen are recommended. Soiled linen should be handled as little as possible and with minimum agitation to prevent gross microbial contamination of the air and of persons handling the linen. All soiled linen should be bagged at the location where it was used; it should not be sorted or rinsed in patient-care areas. Linen soiled with blood or body fluids should be placed and transported in bags that prevent leakage.

Significantly, the foregoing does not specify the use of gloves when handling laundry. Moreover, it states that the risk of disease transmission from soiled linen is negligible. It is concluded, therefore, based on the record in this particular case, that the Secretary has not met her burden of proving that the handling of soiled linen at Waldon represented a hazard. This conclusion is supported by the testimony of Dr. Lutz and Dr. Septimus, which indicated that there have been no cases in which transmission has been linked to this activity. It is also supported by the § 5(a)(1) discussion, supra. Accordingly, this citation item is vacated.

29 C.F.R. § 1910.145(f)(8)

Ritchie Hofmann, the OSHA industrial hygienist who inspected Waldon, testified he observed a clear brown bag in a disposal can in a hallway that contained used gauze and dressings. Joanne Trader, Waldon's supervisor of nursing, told him the bag contained blood-tainted waste. The same type of bag was used throughout the facility, and the bags were not marked in any way. Hofmann's concern was that aides or other employees disposing of the bags could contact the contents and be exposed to bloodborne diseases such as HBV and HIV. (Tr. 183-84; 192-94; 197; 230-34).

Shirley Rogers has been a licensed practical nurse at Waldon for 12 years. She testified that used dressings are disposed of in plastic trash bags which are double-bagged and disposed of in a trash receptacle. The bags are not identified in any way, and the same type of bag is used throughout the facility. She indicated that dressings identified as infectious waste are disposed of in a red bag, but was aware of no special location or separate disposal provisions for such waste. (Tr. 256-57; 272-73; 277-78).

Lorraine Moriarity is the eastern area nurse coordinator for ARA. She testified that she wrote most of ARA's infection control manual, which is required by federal and state regulations. She said the definition of infectious waste varies in different states, but that it is generally considered to be anything with body fluids on it. She described ARA's infectious waste disposal policy; waste is double-bagged, and usually red-bagged, and put into a special container provided by a company which disposes of the waste. She

said Waldon's procedure is to double-bag waste and lock it away in a special room. (Tr. 379-80; 384; 388-90; 392-93; 436-38; C-6).

Although the testimony of Rogers and Moriarity regarding waste disposal is somewhat equivocal, C-6, ARA's infection control manual, sheds some light on this matter. Its definition of infectious waste, at page I-3, is essentially the same as that given by Moriarity. However, a review of C-6 shows that red bags are specified only for waste in isolation cases, in which an infection or contagious disease is confirmed or suspected. See pgs. III-5; III-15; V-7-8; V-13. Consequently, it is found as fact that Waldon's general practice is to dispose of used dressings in unmarked brown plastic bags, which, on the admission of Waldon's supervisor of nursing, can contain blood.

The citation was issued because Hofmann believed employees who disposed of Waldon's waste bags could have contacted dressings contaminated with HBV or HIV. Respondent contends there was no violation because the record does not demonstrate a hazard of HBV or HIV infection.

The subject standard provides, in pertinent part, that:

> Biological hazard tags shall be used to identify the actual or potential presence of a biological hazard and to identify ... containers ... that contain or are contaminated with hazardous biological agents.

It is clear Waldon did not use tags or other means to indicate the presence of potentially infectious waste. However, in the preceding discussion it was found that the Secretary failed to show that the handling of soiled linen represented a hazard of HBV or HIV infection. That finding was based in part on the opinions of

Dr. Lutz and Dr. Septimus. Their opinions, set out supra, were supported by R-1, CDC's universal precaution recommendations. It appears to this judge that the risk of infection from contact with blood-soiled linen would be essentially the same as that from contact with waste such as blood-soiled dressings. This conclusion is supported by R-1, which states, at page B-10, that:

> There is no epidemiologic evidence to suggest that most hospital waste is any more infective than residential waste. Moreover, there is no epidemiologic evidence that hospital waste has caused disease in the community as a result of improper disposal. Therefore, identifying wastes for which special precautions are indicated is largely a matter of judgment about the relative risk of disease transmission. The most practical approach to the management of infective waste is to identify those wastes with the potential for causing infection during handling and disposal and for which some special precautions appear prudent. Hospital wastes for which special precautions appear prudent include microbiology laboratory waste, pathology waste, and blood specimens or blood products. While any item that has had contact with blood, exudates, or secretions may be potentially infective, it is not usually considered practical or necessary to treat all such waste as infective.

On the basis of the foregoing, it would seem that CDC does not consider hospital wastes, other than those for which it recommends special precautions, significant in regard to disease transmission. The standard, at 1910.145(f)(2), defines biological hazards as infectious agents which present a risk of death, injury or illness. It is clear that HBV and HIV are biological hazards within the meaning of the standard under circumstances which represent a realistic possibility of infection. However, it is equally clear that based on the record in this particular case, the Secretary has not met her burden of proving that contact with soiled dressings at Waldon represented a hazard. This citation item is vacated.

Conclusions of Law

1. Respondents, Waldon HealthCare Center and ARA Woodlake Nursing Home, are engaged in business affecting commerce and have employees within the meaning of § 3(5) of the Act. The Commission has jurisdiction of the parties and of the subject matter of the proceedings.

2. On May 10, 1989, Waldon HealthCare Center was not in violation of § 5(a)(1) of the Act.

3. On May 10, 1989, Waldon HealthCare Center was not in violation of 29 C.F.R. §§ 1910.132(a) and 1910.145(f)(8).

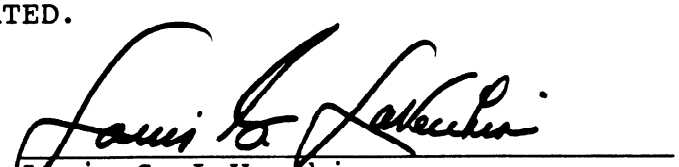
4. On August 16, 1989, ARA Woodlake Nursing Home was not in violation of § 5(a)(1) of the Act.

Order

On the basis of the foregoing Findings of Fact and Conclusions of Law, it is ORDERED that:

1. Items 1, 2 and 3 of serious citation number 1, issued to Waldon HealthCare Center, are VACATED.

2. Item 1 of serious citation number 1, issued to ARA Woodlake Nursing Home, is VACATED.



Louis G. LaVecchia
Administrative Law Judge

DATE: JUL 31 1991