

Part IV

**Legal, Ethical, and
Economic Issues**

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Chapter 8

**Legal Issues Raised by
Genetic Testing in the
workplace**

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Legal Issues Raised by Genetic Testing in the workplace

Genetic testing raises many legal issues for which there are few clear answers. The most fundamental question is whether the technology is compatible with existing laws and the established legal rights of employees. This question embodies a number of issues within the broad spectrum of employee-employer relations, ranging from the nature of the doctor-employee relationship through the proper use of the test results to the employer's responsibility to prevent occupational illness. These questions may be specified as follows:

- Who has the legal responsibility for achieving and maintaining a safe workplace?
 - What does “safe” mean?
 - How is safety to be achieved?
- To what extent does the law protect the interests of individuals or groups who may be at increased risk of occupational illness?
- When, if ever, does an employer have a duty to use certain medical procedures, including genetic testing?
- What are the legal constraints on occupational medical testing procedures, whether used routinely or for research?
 - What information must be given to the employee?
 - What use can be made of the results?
- What are the employer's rights to use employee selection methods that it deems appropriate?
- Under what circumstances could the Occupational Safety and Health Administration (OSHA) require medical tests in general and genetic testing in particular?
- To what extent can employers and employees or their unions negotiate their own answers to these questions?

No Federal statute specifically covers or even refers to genetic testing in the workplace. No Federal court cases have dealt with the subject. Consequently, there are no direct legal precedents to guide decisionmaking. However, there are many established legal principles governing the rights and duties of employers, employees, company medical personnel, and unions. These can be applied to the issues raised by this new technology,

There are three major ways that legal rights and duties governing employer-employee relations are created. The first is by judicial decision, which produces a body of legal principles known as the common law. The second is by legislative decree. Federal and State statutes can expand, modify, or overturn common law rights and duties or create new ones. The first major example of this in employer-employee relations was the enactment of workers' compensation laws by all of the States in the first part of this century. Other applicable statutes include the National Labor Relations Act (NLRA), the Occupational Safety and Health Act of 1970 (OSH Act), the Civil Rights Act of 1964, and the Rehabilitation Act of 1973. The third way is by contractual arrangements between employers and unions. These are known as collective bargaining agreements and are authorized by the NLRA. Rights and duties with respect to company employment and medical practices may be created, modified, or enhanced by collective bargaining agreements so long as they are not incompatible with existing law.

These sources of law provide a useful framework for addressing the legal issues raised by genetic testing in the workplace.

Basic rights and duties governing employment and medical practices

The common law provided the initial source of legal principles governing relationships among employers, employees, and company physicians. Workers' compensation laws substantially modified the relationship between employer and employee, but the common law continues to be relevant, especially in the doctor-employee relationship and in litigation concerning occupational illness, such as the asbestos cases.

Employer rights and duties

Under common law, an employer had virtually unfettered control in selecting its employees. The employer could hire or refuse to hire for any reason or no reason at all. This right included the right to refuse to hire an individual because of the employer's opinion that the prospective employee was physically incapable of performing the job. Once hired, the employee could be fired "at will" by the employer for any reason or no reason at all, including the employer's belief that the employee could no longer perform the job because of his physical condition. This has been modified by State and Federal antidiscrimination statutes.

Under common law, employers had five main duties for the protection of employees. These were to: 1) provide a safe place to work, 2) provide safe tools and equipment for the work, 3) warn of dangers about which the employee might reasonably be expected not to know, 4) provide a sufficient number of suitable coworkers to ensure the safety of each worker, and 5) promulgate and enforce rules that would make the work safe. These duties are still recognized by the law in the 50 States and the District of Columbia.

An employee who suffered from an injury or illness related to his employment had a right to sue the employer for damages. Because these suits

were based on common law negligence,* employers usually were able to escape liability by invoking the common law defenses of contributory negligence, assumption of risk, and the fellow servant rule (53). That is, if the injury or illness was caused in any part by the negligence of the injured worker or any coworker, or if the employee expressly or impliedly assumed the risk of working in a hazardous job, there was no recovery. The concept of assumption of the risk may be relevant in some cases involving genetic testing.

New rights and duties created by workers' compensation laws

Beginning in 1910 with New York, the States took steps to relieve the hardship of industrial accidents on individual workers and their families by passing workers' compensation laws. Today each State has such a statute. The major objectives of these laws are to: 1) provide sure, prompt, and reasonable income and medical benefits to work-accident victims, or income benefits to their dependents, regardless of fault; 2) provide a single remedy and reduce court delays, costs, and workloads arising out of personal injury litigation; 3) eliminate payment of fees to lawyers and witnesses, as well as the expense of time-consuming trials and appeals; 4) encourage maximum employer interest in safety and rehabilitation through an appropriate experience-rating mechanism; and 5) promote study of the causes of accidents in order to prevent future accidents (66).

Workers' compensation is a form of '(strict liability)' whereby the employer is charged with the injuries arising out of its business without

*Negligence is conduct (an act or omission) that involves an unreasonable risk of harm to another person. For the injured party to be compensated, he must prove in court that: 1) the defendant's conduct was negligent, 2) the defendant's actions in fact caused the injury, and 3) the injury was not one for which compensation should be denied or limited for reasons of overriding public policy.

regard to fault. Common law damage actions* are precluded, but so too are common law defenses. The employee is assured of medical expenses and income maintenance; employers are protected against potentially large personal injury judgments, including those for “pain and suffering.” In addition, employers are assured of relatively fixed production costs that can be passed along to the consumers, since the employer carries insurance to pay workers’ compensation claims. Resort to this system is, with some exceptions, the “exclusive remedy” available to injured workers.

Virtually all private sector employees are covered by State workers’ compensation laws and government employees are protected by similar laws. Where the statute does not apply, injured employees retain their common law rights and remedies.

Each State law sets its own eligibility requirements, benefit levels, and administrative mechanisms for claims processing. The resulting wide range in eligibility and benefit levels is one of the most frequent criticisms of workers’ compensation.

One of the most troubling aspects of worker’s compensation law is in dealing with occupational disease. Claimants must prove that the disease from which they suffer is work related and not one of the “ordinary diseases of life” (41)62). This is extremely difficult to do for many occupational diseases, which have long latent periods and whose causes are poorly understood. Consequently, occupational disease cases are six times more likely to be contested than accident or other cases (32), and relatively few claimants prevail (7).

Exceptions to the “exclusive remedy” rule

There are a number of exceptions to the general statement that workers’ compensation is the only remedy available to an employee suffering from work-related injury or illness. Two of the exceptions are most relevant here.

● The term “action” is synonymous with suit or lawsuit.

DUAL CAPACITY

In a minority of jurisdictions, an employer may become liable to its own employee if the employee’s injury or illness resulted from the breach of a duty arising outside the scope of an employer-employee relationship. In these situations the employer is said to be acting in a “dual capacity.” The most important of these for genetic testing is when an employer provides medical services, whereby it incurs the risk of medical malpractice claims.

One category of these claims involves the failure of the company physician to detect or to inform an employee of illness. For example, in *Bednarski v. General Motors Corp.*,* a wrongful death action** was permitted to be brought based on the company’s failure to diagnose or to inform the plaintiff’s decedent that he had lung cancer, even after performing a series of physical examinations and X-rays. Many of these failure to diagnose or inform cases are based on non-work-related illnesses that were allegedly detectable during preemployment examinations (8,9,73).

An employer might also be found liable for negligently failing to discover an employee’s propensity to contract a work-related illness, thereby permitting the employee to be exposed to conditions that bring about the disease (14,56). If such a case were brought, however, the plaintiff would be required to prove that a reasonably prudent company doctor exercising ordinary skill and judgment would have detected the employee’s likelihood of contracting an occupational disease. It is unlikely, at least at the present time, that an employer would be liable where the employee’s medical condition could only be detected through sophisticated biochemical or cytogenetic procedures and the employer did not use these procedures. On the other hand, the negligent misuse of these procedures by the employer might provide the basis for liability.

Two other points related to dual capacity medical malpractice are relevant. First, even where the examining physician is not negligent, the

*88 Mich. App. 482, 276 N.W. 2d 624 (1979). Accord, *Hoover v. Williams*, 203 A.2d 861 (Md. 1964) (silicosis).

**A wrongful death action is a suit claiming that the defendant conduct wrongfully caused someone’s death and that the plaintiff, usually the surviving spouse or children, was harmed as a result.

employer may be liable if established company medical practices are inadequate (36). Second, in some jurisdictions the company physician may be sued individually for negligence and is not protected by the employer's immunity under workers' compensation laws (30,31).

WILLFUL AND INTENTIONAL TORTS*

In almost all jurisdictions, an exception to the exclusive remedy rule is recognized if the employee can prove that the employer specifically intended to harm him (4)35,59). This is a fairly high hurdle for a plaintiff employee to clear, In *Mandolidas v. Elkins Industries, Inc.*,** however, the West Virginia Supreme Court of Appeals greatly expanded the rule and held that an employer is liable for employee injuries resulting from the employer's willful, wanton, or reckless misconduct: "[W]hen death or injury results from willful, wanton or reckless misconduct, such death or injury is no longer accidental in any meaningful sense of the word, and must be taken as having been inflicted with deliberate intention for the purposes of the workmen's compensation act." A recent Ohio case also adopted this viewpoint (11).

The *Mandolidas* case could arguably support an action against an employer by an employee if the following conditions were met: 1) the employer was using genetic screening tests, 2) the tests were highly predictive, 3) the tests identified the employee as susceptible, 4) the employer placed an employee into a high risk instead of a low risk environment, and 5) the employer contracted the disease for which he was identified as being at risk.

A more substantial body of law exists to allow recovery for injury or illness caused by the fraud or deceit of the employer. The cases usually involve concealment of an existing illness. For example, where employers have fraudulently concealed from employees the fact that they were suffering from lung cancer (37) or silicosis (21), the employees were permitted to bring damage actions for injuries caused by the aggravation of their initial condition. There is also some limited

case law to the effect that fraudulent concealment of information about hazardous working conditions would permit an injured employee to recover damages (34). These cases on fraudulent concealment might support an action where the concealment involved the results of genetic monitoring, if the results validly predicted that employees were at an increased risk of developing cancer and the plaintiff developed cancer.

Products liability

The "exclusive remedy" provisions of workers' compensation laws apply only to actions brought by injured employees against their employer. Some jurisdictions permit suits against other companies, for example, the manufacturer of a product used by the employee on the job. This products liability litigation—where the employee alleges that an injury or illness was caused by a product manufactured by the defendant and supplied to the employee's employer—is rapidly expanding. Perhaps the best known type of case, and certainly the most prevalent number of these cases, involves asbestos.

Asbestos and other products liability suits often are based on the allegation that the manufacturers failed to warn all those who might handle the product of its hazardous nature. In the leading case of *Borel v. Fibreboard Paper Products Corp.*,* the Fifth Circuit Court of Appeals accepted such a claim by ruling that the defendant manufacturer of insulation material that contained asbestos had a duty to warn all users of its asbestos products, including insulation workers who did not make the product but simply installed it, of the foreseeable dangers associated with handling asbestos.

Products liability conceivably could become an issue for genetic testing. For example, if a company manufactured a chemical that was a suspected carcinogen, it might feel compelled to use cytogenetic monitoring to help it determine the potential hazards associated with the chemical, not only to protect its employees but also to be able to warn its customers' employees. Failure to take such steps might provide grounds for lawsuits similar to those for asbestos.

*A tort is a civil wrong, other than breach of contract, for which a court will award damages or other relief.

•246 S. E.2d907 (W. Va. 1978).

*493 F.2d 1076 (5th Cir. 1973), *cert.denied* 419 U.S. 869 (1974),

Rights and duties in company medical practices

THE DOCTOR-EMPLOYEE RELATIONSHIP

The nature of the doctor-employee relationship is clouded by the dilemma of the conflicting duties of the occupational physician. On one hand, the doctor is an employee of the company and thus has the duty to further the company's interests. On the other, when the doctor examines or treats employees, this interaction looks very much like the standard doctor-patient relationship.

The tension between the doctor's conflicting duties may be seen in the following example. Suppose a person's annual checkup by his personal physician reveals a condition that would make him susceptible to disease in a certain work environment. The doctor has the duty to inform the patient of the risk, and the patient can choose to act on that information as he sees fit. If, however, the examination was a preemployment one conducted by the company physician, the doctor's primary duty would be to inform the employer, with the likely result that the person would not be hired or would be placed in a job different from the one for which he was originally considered.

It is important to determine whether a physician-patient relationship exists between an employee and an employer-provided doctor. If there is no such relationship, the doctor owes no duty to the employee except to use ordinary care not to injure the employee during the course of the examination. If there is a physician-patient relationship, the physician must render medical care with the skill and learning commonly possessed by members of the profession. The physician also would have the following legal duties: 1) to discover the presence of disease, 2) to inform the patient of the results of the examination and of any tests performed, 3) to advise the employee of risks associated with continued exposures, and 4) to preserve the confidentiality of communications and records.

The traditional view is that there is no physician-patient relationship between an actual or prospective employee and an employer-provided doctor (2, 39, 58). Courts that adhere to the

dichotomy between employer-provided and traditional patient-obtained medical care look to whether the physician is treating or merely examining the individual or for whose benefit the physician is performing the service. If the physician is merely examining the individual or performing services for the benefit of the employer, no physician-patient relationship will be found.

There are indications that this is changing, and the current state of the law is less certain (49). The distinction between treating and examining seems simplistic and artificial. {occupational physicians examine and treat; the benefit of their services goes to both employer and employee. Therefore, to determine if there is a physician-patient relationship, other factors also need to be considered, including whether there is an ongoing medical relationship between the parties or merely a single examination, what the reasonable expectations of the physician and patient are as to the nature of the examination, whether any diagnosis or treatment is contemplated by the examination, and the nature of the employee's consent to the examination. In fact, the employee's expectations as to the nature of the exam may create a duty on the part of the employer's physician to inform potential employees of any serious health problems that the doctor discovers or should have discovered with the exercise of reasonable care. This duty would arise not out of a physician-patient relationship per se, but out of the natural reliance by the potential employee on the physician to inform him of any uncovered health problems. Acting on this reliance, the applicant may forego additional examinations to his detriment.

THE DOCTOR-EMPLOYER RELATIONSHIP

Unlike the doctor-employee relationship, the relationship between the employer and the doctor is more clear-cut. Generally, the doctor is viewed as representing the employer, and, under the legal doctrine known as *respondeat superior*, actions of the doctor are attributed to the employer. Thus, if the doctor is found to be liable for malpractice or other improper actions with respect to an employee, the employer generally will be held liable too.

DUTY TO CONDUCT MEDICAL OR GENETIC TESTING

Employers are under no general legal duty to conduct preemployment or periodic medical examinations, except where required by OSHA standards covering specific health hazards or pursuant to a provision in a collective bargaining agreement. Nevertheless, approximately 48 percent of all employees in urban workplaces are required to take a preplacement physical examination and nearly 34 percent of all such employees are provided with periodic medical examinations (45).

Under these circumstances, is there a duty to conduct genetic testing during the course of these examinations? The physician has a duty to use reasonable care and customary medical procedures. Since this technology does not meet established scientific criteria for routine use, the physician does not have a duty to use the tests. However, if sufficiently high correlations between genetic endpoints and disease are eventually demonstrated and the tests become a commonly used medical procedure, the occupational physician may have a duty to use them when conducting medical examinations.

EMPLOYEE'S RIGHT TO REFUSE AN EXAM

With the increasing use of occupational medical screening, examinations, and procedures comes the growing likelihood that an applicant or employee would refuse to take such an exam on religious, ethical, medical, privacy, or other grounds. Thus, the question arises whether an applicant or employee has a right to refuse medical tests and still retain his job. Unless the test procedure violates a specific statute, regulation, or collective bargaining agreement, there is no constitutional or common law right to refuse (28).

TESTING SOLELY FOR RESEARCH PURPOSES

An employer may want to conduct genetic tests solely for research purposes, where no job actions are taken with respect to employees. In this situation, absent a specific provision in a collective bargaining agreement, it would appear that the employee has no right to refuse to take part in the testing and still retain his job. Research on methods to determine the health effects of work-

place exposures can be a valid condition of employment.

There are constraints on how the research may be conducted. If an employer had received Federal funds for the research or were conducting the research with a university that had received Federal funds for the project, the researchers are required by the National Research Act* to establish an Institutional Review Board (IRB) in order to protect the rights of the human subjects. The Department of Health and Human Services (DHHS) has promulgated regulations which, among other things, specify the criteria for IRB membership and approval of the research. ** One of the most important of the criteria for approval is that informed consent to the research must be given by each subject. While the regulations specify at least eight elements of informed consent, these elements basically condense to the following requirements: 1) all of the important information, such as the procedures, the risks, and the possible benefits, must be disclosed to the employee in terms he or she can understand; 2) the employee must understand that information; 3) the employee must be mentally competent to consent; 4) the consent must be voluntary; and 5) a statement must be provided describing the extent to which confidentiality of records identifying the subject will be maintained. A further discussion of these regulations is not warranted because most occupational medical research is not likely to be federally funded.

Research to establish the validity of genetic testing most likely will be governed by State law. A few States have enacted statutes covering human experimentation. *** However, State tort law (common law) probably will be the source of applicable law. Tort law generally provides few limitations on such experimentation other than the requirements of informed consent and avoidance of negligence (27). Unlike the elements of informed consent in the DHHS regulations, however, the State-law-developed doctrine of informed consent does not deal with the issue of

*42 U.S.C. §2891-3(2) (1976).

*● 45 C.F.R. §46 (1981).

•* *See, for example, N.Y. Pub. Health Law §2440-2446 (McKinney 1977); Wis. Stat. Ann. §5.161 (West Supp. 1981).

confidentiality of medical records. Furthermore, in the workplace, the requirements for informed consent are likely to be minimal. Since participation in research can be a valid condition of employment, employees probably would not have to be told much, if anything, about the research, unless it involved a significant risk. Since genetic testing involves low-risk procedures, employees probably would not have to be informed of the tests. Of course, the employee would have to consent to the medical examination in which blood was drawn.

Despite the generally limited legal restrictions on medical research under State law, an employer still might hesitate before embarking on a research program involving genetic testing. An employer may fear that a plaintiff in a lawsuit claiming work-related illness could get access to the results via discovery * procedures and use them to build a better case against the employer, even if the employer believed the results did not establish the validity of the tests.

DISCLOSURE OF HEALTH RISKS

Although a rule** under the OSH Act requires that employees (but not applicants) be given access to their medical records, employers and occupational physicians do not have an affirmative duty under this rule or the common law to disclose the results of medical exams to employees or applicants. However, as noted previously, withholding medical information can give rise to civil liability, where an illness, whether or not occupational, was detected or should have been detected.

This principle possibly could be extended to situations where individuals were merely at risk. Since employers have a common law duty to apprise employees of latent dangers, a company may be liable for failure to disclose that employees are working with a hazardous product. In addition, a physician may be liable for failure to disclose the health risks of the job, if the company gives medical examinations,

*Discovery is the right of parties in a lawsuit to have access to information in the possession of their adversary relevant to the suit. This right of access is quite broad. The theory underlying discovery is that the parties should not be "ambushed" at trial with information that was previously unknown to them and detrimental to their case.

•● 29 (F K. §191020 (1981)

Disclosure of information about hazardous substances provides the employer with the opportunity to use the defense of assumption of the risk in lawsuits based on common law theories of negligence. That is, if an employee who was at increased risk of disease knowingly placed himself in the risky environment, he could not later sue the employer or physician for negligence if he developed the disease (13,72).

EMPLOYEE ACCESS TO MEDICAL RECORDS

In view of their concern about possible misuse of information from genetic screening and a likely desire to know of risks to their health, employees and applicants might want to have access to their medical records. As of 1980, employees have a right to see their medical records pursuant to OSHA's Access to Employee Exposure and Medical Records Standard. * Besides OSHA's access standard, which applies only to toxic substances and which is still being challenged in the courts, there are few legal requirements that employers give employees a right of access to medical records. Five States—Connecticut, Massachusetts, Maine, Ohio, and Wisconsin—provide for such a right, usually as part of a broader right to review the employee's entire personnel record. * * Applicants have no rights to company medical records. The only other source of an access right is through a collective bargaining agreement.

CONFIDENTIALITY OF MEDICAL RECORDS

One concern of employees or applicants who have been genetically screened would be to prevent the spread of embarrassing, damaging, or false information about themselves, particularly to other potential employers. Thus, they would wish to know to what degree such information would be kept confidential.

The Code of Ethics for Physicians Providing occupational Medical Services provides that "employers are entitled to counsel about the medical fitness of an individual in relation to work but are not entitled to diagnoses or details of a specific

*45 Fed. Reg. 35,212-3,5,303 (May 23, 1980), codified at 29 (C F R §1910.20 (1981).

** [C] nn Gen Stat Ann title 31, § 128c (WestSupp 1981); Mass Ann Laws ch 149, § 19A (1976); Me. Rev Stat Ann t itle 26, §631 (WestSupp. 1981); Ohio RevCode §411323 (Page1980); Wis Stat Ann. title 13, §1 03.13 (WestSupp 1981)

nature. ” In practice, however, management access to employee medical records is often much more extensive (49)55,70).

There are few legal restrictions on such disclosures within the company. Often as a condition of employment, employees sign blanket waivers authorizing the company to use medical and personnel records as it deems necessary. Even if a waiver is not signed, it has been asserted that “workers have little genuine expectation of true confidentiality as to employment medical records” (49). In one case, the court stated that the employment exam “was wholly for the benefit of the Company, and the doctor owed to it alone the duty to perform efficiently the work the Company had employed him to do. Appellant must be charged with knowledge of this” (39). Thus, there was an implied waiver of confidentiality by the employee’s consenting to the examination. Finally, liability for wrongful disclosure would have to be based on a breach of the physician’s duty of confidentiality and, as discussed earlier, many courts have found that there is no physician-patient relationship where the physician is provided by the company.

With respect to disclosure of medical information to parties outside the company, there are also

few restrictions under common law. In any lawsuit alleging damage from such disclosure, the plaintiff would have to overcome the defense that there was no duty of confidentiality because there was no doctor-patient relationship between the company physician and the employee or job applicant (54).

Some State and Federal statutes provide a variety of protections from disclosure. OSHA’s access standard gives OSHA the right to employee medical records in personally identifiable form, but limits the disclosure of such information and provides safeguards to ensure confidentiality. The DHHS regulations on human experimentation require, “where appropriate,” adequate provisions to protect the privacy of subjects and to maintain the confidentiality of data. *

The most extensive regulation of medical information is California’s Confidentiality of Medical Information Act. ** It requires employers who receive medical information to establish procedures to ensure its confidentiality. Further, employers cannot disclose this information to others without the employee’s written consent.

*45 C.F.R. §46.11 1(a)(7).

* *Cal. Civ. Code Ann. §56 (Deering Supp. 1982)

Statutory regulation of company medical and employment practices — _____ —, ∴ — —, _____

Three Federal statutes—the Occupational Safety and Health Act of 1970, the Civil Rights Act of 1964, and the Rehabilitation Act of 1973—are directly applicable to medical and employee selection practices used by employers. The OSH Act* was enacted “to assure so far as possible every working man and woman in the Nation safe and healthful working conditions”** The act provides the Government with broad regulatory authority over physical conditions in the work environment. Since genetic testing may play a role in the prevention of occupational illness, questions naturally arise about whether genetic testing is

or could be required, prohibited, or otherwise regulated pursuant to the act.

Title VII of the Civil Rights Act of 1964, as amended, * and sections 503 and 504 of of the Rehabilitation Act of 1973** govern employment rights. Title VII prohibits employment discrimination on the basis of race, color, religion, sex, or national origin. The Rehabilitation Act prohibits employment discrimination against otherwise qualified handicapped individuals by employers who are Government contractors or recipients of Federal assistance. These statutes embody the

*29 U.S.C. §§651-678 (1976 & Supp. III 1 1979)

•* §2, 29 U.S.C. §651 (1976).

*42 U.S.C. §2000e (1976 & Supp. II 1 1978).

*.29 U.S.C. §§701-796 (1976 & Supp. III 1 1979)

policy that individuals are not to be discriminated against on the basis of immutable characteristics and that their abilities are to be judged on an individual basis. Since one major type of genetic testing—genetic screening—could result in employment discrimination against classes of individuals with particular inherited traits, the question arises as to whether such discrimination is prohibited by these two acts.

This question is not answered simply by asserting that the OSH Act requires every employee, even those who may be genetically susceptible to illness, to have a safe working environment and therefore federally mandated exposure levels of hazardous substances must be low enough to protect these people. The broad policy of worker protection embodied in the act is limited by requirements that Government exposure standards be technologically and economically feasible and that they be imposed only after a finding of a significant risk of material health impairment. Thus, there is a tension between the social goals of maximizing equal employment opportunity and safety in the workplace.

This section examines how these three statutes and State fair employment practices laws deal with the sometimes conflicting policy goals and various legal questions created by genetic testing.

Occupational Safety and Health Act

The OSH Act is the only comprehensive statute addressing hazards in the workplace and therefore is the primary vehicle for hazard elimination in that setting. Section 5(a) of the act requires employers to furnish a place of employment free from recognized hazards and to comply with all standards promulgated under the act. “Recognized hazards” has been interpreted by the courts to mean recognized by the employer or the industry and that there is a recognized way of dealing with it; that is, it is preventable (46). Section 5(b) requires each employee to comply with “all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.” * Despite the seeming similarity of these provisions, it is clear that “[f]inal respon-

sibility for compliance with the requirements of this Act remains with the employer” (60). Employees cannot assume the risk with respect to health and safety hazards as they could under common law. Only the employer may be issued citations, assessed penalties, and ordered to abate violative conditions. Employees may only petition the Secretary of Labor to enforce the requirements of the act; the employer is required by law to obtain the compliance of employees, even if this entails disciplining disobedient employees. Violations of the act or rules promulgated thereunder can result in civil or criminal penalties against the employer. The act does not supersede or affect rights and duties created by common law or workers’ compensation statutes.

Employer duties under the OSH Act are specific and nondelegable. An employer may not rely on a union to provide safety training, and it may not shift the burden of compliance to employees or supervisors. Under the act, employees may not assume the risk nor consent to work in conditions that violate the act’s requirements.

An important right of employees under the OSH Act is the right to refuse to work under extremely hazardous conditions where there is insufficient time to eliminate the hazard by resort to regular enforcement channels. This right, based on the broad antidiscrimination provision in section 11(c), was established in an OSHA regulation, * which was unanimously upheld by the Supreme Court in *Whirlpool Corp. v. Marshall*.**

If cytogenetic tests showed an increased number of chromosomal abnormalities in one or more employees, could they walk off the job? The answer is probably not. First, because of the debatable predictive ability of these procedures, it is unlikely that the employee or employees could demonstrate the regulation requirement that there be a “real danger of death or serious physical injury.” Second, and more important, most occupational illnesses are developed over a period of time. Therefore, it is likely that the employee would fail to meet the “imminence” or “urgency” requirement of the regulation. To date, all of the work refusal cases have involved safety hazards.

* §5(b), 29 U.S.C. §654(b) (1976)

* 29 C.F.R. §1977.12(b)(2) (1981)

** 445 U.S. 1 (1980)

Given the employer's duty under the OSH Act to maintain a safe workplace, is genetic testing compatible with or contrary to that duty? To answer this question, it is necessary to consider several more specific questions that are focused on the particular types and applications of genetic testing and the various requirements that can be imposed on employers pursuant to the act. These are addressed in the remainder of this section.

GENETIC TESTING AND THE GENERAL DUTY CLAUSE

The first clause of section 5(a) of the OSH Act, which requires employers to maintain a workplace free from recognized hazards, is known as the general duty clause. Does it require employers to use genetic monitoring to identify hazards? Does it require or permit the use of genetic screening to identify potentially susceptible workers?

The general duty clause simply imposes a requirement on employers without stating the means by which that requirement can be met. Thus, it would not support an argument that genetic testing is required by the OSH Act. Neither would it support an argument that genetic testing is prohibited by the act. Although genetic testing could be adverse to the interests of particular employees, it certainly would not be a "hazard." These conclusions, however, leave open the question of whether OSHA can require, prohibit, or regulate genetic testing under its power to set safety and health standards.

EMPLOYEE VARIABILITY IN STANDARDS SETTING

Section 5(a)(2) of the OSH Act gives the Secretary of Labor broad power to require a safe workplace by setting standards that can govern virtually all aspects of the work environment in any way related to safety or health. The standards may be promulgated in one of three ways. First, under section 6(a), the Secretary of Labor was initially authorized to adopt without rulemaking proceedings "established Federal standards" developed under other Federal acts and "national consensus standards" produced by nationally recognized, private standards-producing organizations. This special authority, which expired in 1973, was

included in the act to ensure that workers would be protected as soon as possible after the act's effective date. Second, under section 6(b), new standards may be promulgated by following certain rulemaking procedures. Third, emergency temporary standards may be promulgated under section 6(c) without rulemaking procedures if certain conditions are met.

In 1971, pursuant to section 6(a), OSHA adopted as established Federal standards 450 threshold limit values (TLVs) developed by the American Conference of Governmental Industrial Hygienists (ACGIH). By definition, TLVs do not consider employee variability, but set levels to which "healthy" workers may be exposed without adverse health effects. * These TLVs still form the backbone of OSHA health standards, with only 21 additional health standards having been promulgated under section 6(b) during OSHA's first 10 years,

Section 6(b)(5) provides that in promulgating standards regulating toxic substances or harmful physical agents the Secretary must set standards to ensure, to the extent feasible, that "(no employee" will suffer material impairment of health or functional capacity, even if exposed for his or her entire working life.** Based on this seemingly absolute language and because of the wide variability in human susceptibility to occupational disease, it might be assumed that OSHA has the authority and in fact is required to promulgate health standards that protect even the most susceptible worker. However, does this mean that OSHA must adopt standards that will ensure that a blind person can drive a truck without suffering an impairment? Does farm work in the Sun Belt have to be made safe for a person with xeroderma pigmentosum, a genetic defect that creates an increased risk for skin cancer?

There are two limitations on the broad language of Section 6(b)(5), one in the section itself and the other imposed by a recent Supreme Court decision. The first limitation is that employees can be

• iL TLV represents the maximum time-weighted average concentration to which a healthy worker may be exposed for a normal 40-hour week up to 8 hours a day over a working lifetime (40 to 50 years) without becoming ill (l).

* *29 U.S.C. §65503(5) (1976) (emphasis added).

protected only to the ‘(extent feasible.’ This language was interpreted in a recent Supreme Court case, *American Textile Manufacturers Institute v. Donovan* (“the *Cotton Dust* case”).* At issue was an OSHA standard governing employee exposure to cotton dust. The standard contained many different provisions, some of which the Court struck down and some that it upheld. In upholding the provisions setting exposure limits to the dust, the Court ruled that the phrase “extent feasible” does not require or permit OSHA to perform a cost-benefit analysis of the impact of its standards but does require that the standards be technologically and economically feasible. By “technologically feasible,” the Court meant capable of being done, and by “economically feasible” it meant feasible for the industry but not necessarily for individual companies. The exposure limit provisions met these requirements. In setting the limits, OSHA acknowledged that 12.7 percent of exposed employees would still suffer from the ill effects of exposure to cotton dust.

The second limitation on the language of section 6(b)(5) was imposed by the Supreme Court in *Industrial Union Department, AFL-CIO v. American Petroleum Institute* (“the *Benzene* case”).** The industry had challenged an OSHA standard that had lowered the permissible exposure limit (PEL) for benzene from 10 parts per million (ppm) to 1 ppm, a level that OSHA had determined to be feasible. The plurality opinion, concurred in by four of the nine Justices, held that the Secretary of Labor must determine on the basis of substantial evidence that a standard “is reasonably necessary or appropriate to remedy a significant risk of material health impairment.” The opinion stated further that the OSH Act “was not designed to require employers to provide absolutely risk-free workplaces” but was only intended to require “the elimination, as far as possible, of significant risks of harm.”

From the above discussion, it is clear that OSHA can and must set exposure limits to toxic substances or harmful physical agents that protect susceptible individuals, but only to the extent that it finds that exposures above the limit present a significant risk of material health impairment and

that the limit is technologically and economically feasible.* A question unresolved in the *Benzene* case is whether significant risk is to be measured with respect to each individual or on some group basis. In other words, it is unclear whether OSHA could promulgate a PEL designed to protect a very small number of susceptible individuals or if it first must find a significant number of workers to be at risk.

GENETIC MONITORING AND OSHA STANDARDS

Some OSHA health standards regulate employee exposure to substances identified as mutagens or clastogens, such as vinyl chloride and arsenic. Since genetic monitoring potentially could identify such substances, could this technique be relied on or required by OSHA in the regulatory process?

OSHA might use the technique to provide data about the harmfulness of a particular substance. If the technique could be used to indicate that a substance was a mutagen or clastogen, data from studies using genetic monitoring could be considered with other evidence when OSHA was setting a standard for a particular substance.

If the technique were sufficiently predictive as a biological dosimeter or as a way to identify a group of workers at increased risk, OSHA might require its use as part of a standard governing a hazardous substance. In that situation, OSHA might rely on the D.C. Circuit Court decision in the lead standard case, which upheld OSHA’s authority to attempt to prevent the subclinical effects of lead disease (38)67).

OSHA REGULATION OF EMPLOYER MEDICAL PROCEDURES

Section 6(b)(7) of the OSH Act gives the Secretary of Labor authority to prescribe the type and frequency of medical examinations or other tests to determine the adverse health effects from exposure to toxic substances, OSHA’s 21 health standards regulating toxic substances require a

* According to Assistant Secretary Of Labor Thorne G. Auchter, every new standard must now meet four requirements: 1) it must be addressed to a hazard presenting a significant risk to workers; 2) it must be demonstrated that the standard will reduce the risk; 3) the standard must be technologically and economically feasible on an industrywide basis; and 4) the standard must be the most efficient, or cost-effective, way to protect workers (15.61)

1(11 s (t. 2478 (1981).

* ● 448 [1.S607 (1980).

variety of medical procedures. In general, employers must conduct preplacement examinations. The physician must furnish employers with a copy of a statement of suitability for employment in the regulated area, must conduct periodic (usually annual) examinations, and in some instances must conduct examinations at termination of employment.

OSHA standards for 13 carcinogens require company doctors to take a complete medical history of exposed employees and consider genetic factors. * According to an OSHA directive, however, this does not require genetic testing of any employee and does not require the exclusion of otherwise qualified employees from jobs on the basis of genetic testing (50).

In general, OSHA has not become involved in regulating the procedures and criteria by which physicians make their determinations of the medical fitness of employees. One notable exception concerns the "multiple physician review" procedure, in which employees can select their own physician if they disagree with the findings of the company physicians. The Fifth Circuit Court of Appeals struck down this provision in the commercial diving standard, which required medical examination of employees who were to be exposed to hyperbaric conditions (65). On the other hand, the Court of Appeals for the District of Columbia Circuit upheld such a provision in the lead standard (38)67). The distinction between the two cases appears to be that the provision in the lead standard was shown to be related to a safe or healthy workplace while that in the diving standard was seen primarily as a job security provision and therefore outside the scope of the act. Thus, OSHA probably could regulate genetic testing to the extent the regulations were related to enhancing workplace health.

MEDICAL REMOVAL PROTECTION AND RATE RETENTION

In general, OSHA standards do not indicate what measures an employer may or must take when an employee or applicant is medically unfit for assignment or continued work in an area where there is exposure to toxic substances. In

fact, the OSH Act has little applicability to job applicants. Its provisions continually refer to employees but do not refer to applicants for employment, and the term "employee" is not defined in the definitions section of the act to include applicants. Thus, unless prohibited by a collective bargaining agreement or some antidiscrimination law, the employer would be free to refuse to hire an applicant or to discharge an employee based on the employer's determination of medical fitness.

OSHA's only attempt to regulate the effects of medical examinations on employment involves medical removal protection (MRP) and rate retention (RR) of employees previously exposed to certain toxic substances. When a periodic medical examination indicates that the employee is showing symptoms of the adverse effects of exposure, the employee is removed from further exposure—to a "safe" job if there is an opening—until it is medically advisable for the employee to return. If the new position is at a lower rate of pay or if a safe job is not available, RR would require the maintenance of wage and benefit levels during the period of medical removal. Thus, MRP and RR attempt to protect employee health without reducing employee benefits, thereby shifting the economic burden to the employer and ultimately to the consumer.

MRP and RR provisions in OSHA health standards have become increasingly stringent. For example, the vinyl chloride standard provides for MRP, but not RR;* the asbestos standard provides for MRP of employees for whom respirators are ineffective, but RR is required only if there is an available position. ** The most sweeping MRP and RR provision is in the lead standard.*** Employees with blood-lead levels above the specified limit must be removed until the level has returned to an acceptable limit. Removed employees retain their earnings rate, seniority, and benefits for up to 18 months.

OSHA's authority to require MRP and RR was called into question by the Supreme Court's decision in the *Cotton Dust* case. Although the Court

● 29 C.F.R. §1910.1003- 1910.1016.

*29 C.F.R. §1910.1017(k)(5) (1981).

*● 29 C.F.R. §1910.1001(d)(2)(iv)(c) (1981).

*. *29 C.F.R. § 1910.1025(k) [1981].

did not decide the issue of whether OSHA has the statutory authority to promulgate any regulation containing MRP and RR, the Court held that “the Act in no way authorizes OSHA to repair general unfairness to employees that is unrelated to achievement of health and safety goals”^{*} Because OSHA had not made a finding when promulgating the cotton dust standard that MRP and RR were related to achieving health, the Court struck down that provision of the standard and remanded it to the Secretary of Labor for further consideration.

ACCESS TO EXPOSURE AND MEDICAL RECORDS

Section 8(c)(3) of the OSH Act directs the Secretary of Labor to issue regulations requiring employers “to maintain accurate records of employee exposures to potentially toxic materials or harmful physical agents which are required to be monitored or measured under section 6.” On May 23, 1980, OSHA promulgated the rule granting employees a right of access to exposure and medical records. ^{**}

Under the rule, any current or former employee or an employee being assigned or transferred to work where there will be exposure to toxic substances or harmful physical agents has a right of access to four kinds of exposure records: environmental monitoring results, biological monitoring results, material safety data sheets, and any other record disclosing the identity of a toxic substance or harmful physical agent. The employee may designate a representative to exercise his or her rights, and labor unions have a right of access to employee exposure records without individual employee consent. OSHA also has a right of access to exposure records. On July 13, 1982, OSHA proposed revisions to the rule, which would narrow its scope significantly. ^{***}

Access to employee medical records is more restricted. Employees have a right of access to their entire medical files regardless of how the information was generated or is maintained. The definition of employee does not include job ap-

plicants. ^{*} A limited discretion is also given physicians to deny access where there is a specific diagnosis of a terminal illness or a psychiatric condition. Unions must obtain specific written consent before gaining access to employee medical records. OSHA has a right of access to employee medical records, but those records in a personally identifiable form are subject to detailed procedures and protections.

Title VII of the Civil Rights Act of 1964

Title VII of the Civil Rights Act of 1964, as amended, ^{**} prohibits discrimination in the hiring, discharge, compensation, or other terms, conditions, or privileges of employment because of an individual’s race, color, religion, sex, or national origin.

Aggrieved individuals must file a charge with the Equal Employment Opportunity Commission (EEOC) within 180 days of the alleged discriminatory act. After a period of up to 180 days for investigation and conciliation by EEOC, the charging party may file an action in Federal district court.

The term “discrimination” is not defined in title VII, but one court defined it as “a failure to treat all persons equally where no reasonable distinction can be found between those favored and those not favored” (6). The Supreme Court has recognized two main forms of employment discrimination, “disparate treatment” and “disparate impact.” Disparate treatment occurs when an employer simply treats some people less favorably than others because of their race, color, religion, sex, or national origin. Proof of discriminatory motive is required. Disparate impact involves employment practices that appear to be neutral in their treatment of different groups but in fact affect one group more severely and cannot be justified by the requirements of the job or business. Proof of discriminatory motive is not required.

The disparate impact concept was established by the Supreme Court in *Griggs v. Duke Power Co.* ^{***} A unanimous Court struck down the ern-

^{*} 101S.Ct at 2506

^{**} 45 FedReg 35,212 (1980), codified at 29 C.F.R. §1910.20 (1981).

^{***} 47 FedReg. 30,420” (1982)

● 45 Fed. Reg at 35,261,

• 42 U.S.C. §2000e (1976 & Supp.II 1978)

•• 401 U.S. 424 (1971),

ployer's use of certain standardized tests because they disqualified black applicants at a substantially higher rate than white applicants and were not shown to measure job capability.

In *Albemarle Paper Co. v. Moody*,^{*} the Court clarified *Griggs* and held that a plaintiff may establish a prima facie case of disparate impact by showing that "the tests in question select applicants for hire or promotion in a racial pattern significantly different from that of the pool of applicants." The burden is then on the employer to show that "any given requirement [has] . . . a manifest relationship to the employment in question." The plaintiff may still rebut this evidence, however, by demonstrating that "other tests or selection devices, without a similarly undesirable racial effect, would also serve the employer's legitimate interest in efficient and trustworthy workmanship."

A crucial but still unresolved issue is how different the comparative test results must be in order to support a finding that there was a disparate impact. Most Supreme Court and lower court decisions have considered disparate impact on an ad hoc basis. According to EEOC guidelines on employee selection procedures, "[a] selection rate for any racial, ethnic or sex group which is less than four-fifths (4/5) (or eighty percent) of the rate for the group with the highest rate will generally be regarded . . . as evidence of adverse impact."^{**} This formula is not binding on the courts.

DISPARATE IMPACT OF GENETIC TESTING

The frequencies of genetic traits in the population often vary along racial or ethnic lines. Some examples of these are sickle cell trait, G-6-PD deficiency, and thalassemia trait. According to one study of G-6-PD-deficient individuals (10), the population frequencies for the trait are as follows:

Americans (whites)	0.1 percent
Americans (black males)	16 percent
British	0.1 percent
Chinese	2-5 percent
European Jews	1 percent
Filipinos	12-13 percent

Greek	1-2 percent
Indians (Asian)	0.3 percent
Mediterranean Jews	11 percent
Scandinavians	1-8 percent

Comparing these percentages to each other rather than to the population categories indicates that the use of G-6-PD screening would have a disparate impact on various groups based on race, sex, and national origin. For example, if 1,000 British and 1,000 Filipinos were screened, only 1 British person but 120 to 130 Filipinos would be expected to show a G-6-PD deficiency. Similarly, it has been estimated that '1 out of 12 blacks has sickle cell trait, but only 1 out of 1,000 whites has it, a ratio of 83 to 1.

For title VII purposes, the use of G-6-PD or sickle cell trait screening (or other procedures with a disparate impact) would establish a prima facie case of discrimination. This does not necessarily mean there is a violation, but only that the burden now is placed on the employer to justify the use of the tests.

If future study should reveal that genetic monitoring has a disparate impact by race, a similar legal analysis would apply.

BUSINESS NECESSITY AND JOB RELATEDNESS

In discussing employer defenses in *Griggs*, the Supreme Court indicated that "[t]he touchstone is business necessity. If an employment practice which operates to exclude Negroes cannot be shown to be related to job performance, the practice is prohibited."^{*} Based on *Griggs*, two intertwined defenses have emerged, "business necessity" and "job relatedness." Although the *Griggs* opinion used the terms in the same sentence and did not differentiate between them, subsequent decisions have attempted to do so. Business necessity applies when a general employment practice is used, the purpose of which is not to determine whether an applicant or employee is capable of performing the job requirements. For example, an employer would attempt to use a business necessity defense to justify not hiring someone who had been convicted of a crime.

Job relatedness is somewhat narrower and goes to whether the criteria used in determining

^{*}422 U.S. 405 (1975).

^{**}29 C.F.R. §1607.4 (1981).

^{*}401 U.S. at 431.

whether an applicant or employee is qualified for employment bears a reasonable relationship to the demands of the job. For example, height and weight requirements and passing scores on standardized tests would be evaluated under job relatedness.

The standards used for determining the merits of the business necessity and job relatedness defenses are similar. The key to business necessity is:

... whether there exists an overriding legitimate business purpose such that the practice is necessary to the safe and efficient operation of the business. Thus the business purpose must be sufficiently compelling to override any racial impact, the challenged practice must effectively carry out the business purpose it is alleged to serve, and there must be available no acceptable alternative policies or practices which would better accomplish the business purpose advanced, or accomplish it equally well with a lesser differential racial impact (57).

Once the employer presents evidence to show that its employment practice is grounded on business necessity, the courts balance all the relevant factors to determine whether the need for the practice sufficiently outweighs any disparate impact. In the case of genetic testing, whether avoiding tort liability or costly engineering controls would be a business necessity is an open question.

Job relatedness essentially involves an analysis of an applicant's qualifications and a comparison of legitimate job requirements with the employer's method for determining fitness. In *Albemarle Paper Co. v. Moody*,* the Supreme Court cited with approval EEOC's Uniform Guidelines on Employee Selection Procedures and held that "discriminatory tests are impermissible unless shown, by professionally acceptable methods, to be 'predictive of or significantly correlated with important elements of work behavior which comprise or are relevant to the job or jobs for which candidates are being evaluated.' " However, the EEOC guidelines have been criticized and the Supreme Court has refused to follow portions of them, particularly when the agency has changed

its position on an issue (40). Whether a risk of illness is a job-related characteristic is an open question.

Any distinction between the defenses of business necessity and job relatedness becomes virtually obscured in the context of genetic screening of workers and applicants. An employer's justification for using screening procedures would necessarily involve elements of both defenses. If a suit were to be filed, arguably a court could require an employer's defense to include proof that: 1) there is a valid reason for excluding workers who are presently capable of performing the required work but who may become physically unable or impaired at some point in the future; 2) it is important to the business that employees not be suffering from an occupational illness; 3) the specific screening procedure used accurately and reliably identifies the presence of the genetic trait; 4) there is a high correlation between the trait and the individual's susceptibility to disease at the permissible exposure level; 5) the company cannot feasibly reduce exposure through engineering controls, personal protection devices, or job placement; and 6) the company cannot insure itself at a reasonable cost against potential tort liability.

EMPLOYEE REFUSAL TO SUBMIT TO MEDICAL TESTS

Does an applicant or employee have the right to refuse to submit to a medical test where the employer's use of the results would violate title VII? From an employee standpoint, section 704(a) of title VII offers the best chance of success. This section provides that an employer may not retaliate against an employee or applicant who opposed any employment practice made unlawful by title VII or who participated in any proceeding under the title. Most of the cases brought under this section involve alleged employer retaliation after the employee files a charge with EEOC. Nevertheless, there are some cases holding that other forms of employee activity are protected when they oppose discriminatory employment actions (3,48).

No court has ever resolved the question of whether section 704(a) protects an employee who refuses to submit to a test that he or she believes is discriminatory (and that cannot be justified by

*422 U.S.405 (1975)

the employer). In the one case where the issue was raised, the case was decided on other grounds (43). It is clear, however, that an employee need not be correct; only a good faith belief is required (42,51).

Based on these considerations, it is possible that an applicant or employee validly could refuse to submit to genetic testing and any retaliation by the employer would violate title VII.

The Rehabilitation Act and State fair employment laws

The Rehabilitation Act of 1973* was the first comprehensive Federal effort to bring handicapped individuals within the mainstream of American life. Of the several provisions of the act, sections 503 and 504 have a direct bearing on the employment rights of the handicapped.

Largely as a result of the Federal initiative, 41 States and the District of Columbia also have enacted laws prohibiting discrimination in employment on the basis of handicap. Unlike the Federal law, which applies only to Federal contractors and recipients of Federal funds, State laws prohibiting employment discrimination against the handicapped have a wider coverage and usually exempt only small employers. Therefore, State law is much more important in cases involving the handicapped than in other kinds of discrimination cases.

Section 503 provides that any contract in excess of \$2)500 entered into with any Federal department or agency shall contain a provision requiring that the contracting party take affirmative action to employ and promote qualified handicapped individuals. The term "handicapped individual" is defined as "any person who (A) has a physical or mental impairment which substantially limits one or more of such person's major life activities, (B) has a record of such an impairment, or (C) is regarded as having such an impairment. " Based on this broad statutory definition, and on the definition contained in the implementing regulations, it has been estimated that as many as 40 million to 68 million persons are covered

by the statute (47). Responsibility for enforcing section 503 is vested in the Office of Federal Contract Compliance Programs (OFCCP) in the Department of Labor. Individuals who believe they have been discriminated against must pursue their remedies through OFCCP; the courts have not permitted these individuals to sue directly,

Section 504 provides that no otherwise qualified handicapped individual shall, solely by reason of handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. Unlike section 503, no minimum amount of financial assistance is required for coverage under section 504, and the courts have held that aggrieved individuals can sue employers under this section. Section 504 also incorporates the same broad statutory definition of handicap as section 503.

Two key terms in the definition of handicapped individual—"physical or mental impairment" and "substantially limits"—are not defined in the statute. However, regulations promulgated pursuant to sections 503 and 504 offer guidance. The regulations under 503 state that a handicapped person is "(substantially limited" if "he or she is likely to experience difficulty in securing, retaining or advancing in employment because of a handicap."* The regulations under section 504 define "(physical or mental impairment" as:

... (A) any physiological disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: neurological; musculoskeletal; special sense organs; respiratory, including speech organs; cardiovascular; reproductive, digestive, genito-urinary; heroic and lymphatic; skin; and endocrine; or (B) any mental or psychological disorder, such as mental retardation, organic brain syndrome, emotional or mental illness, and specific learning disabilities. **

It has been estimated that 3 million firms—about half the businesses in the country—are covered by the act, either as Government contractors or recipients of Federal funds (63),

*29 U.S. C. §§701-796 (1976 & Supp.111 1979)

*41 C.F.R. §60-741.2 (1981).

* ● 45 C.F.R. §84.3 (j)(2)(i) (1981).

MEDICAL EXAMINATIONS AND SCREENING TESTS

Under the guidelines and model regulations promulgated to implement section 504, an employer receiving Federal financial assistance may not make preemployment inquiry about whether the applicant is handicapped or about the nature and severity of an existing handicap unless a preemployment medical examination is required of all applicants and the information obtained from the examination is relevant to the applicant's ability to perform job-related functions.

Under the section 503 regulations, a Federal contractor may require a preemployment medical examination of a handicapped applicant, even if an examination is not required of the nonhandicapped. Nevertheless, if the employer's job qualification requirements "tend to screen out qualified handicapped individuals, the requirements shall be related to the specific job or jobs for which the individual is being considered and shall be consistent with business necessity and the safe performance of the job."^{*}

Despite the slight difference in language and approach between the section 503 and 504 regulations, both serve to limit the use of discriminatory preemployment examinations and tests. Nevertheless, it still must be determined whether genetic differentiation is a handicap and whether the screening procedures are job related.

IS GENETIC SUSCEPTIBILITY OR CHROMOSOMAL ABNORMALITY A HANDICAP?

The definition of "handicapped individual" basically includes persons who are, were, or are believed to be suffering from an impairment. The goal of genetic testing is to identify individuals or groups who are not at present impaired, but who may be or are likely to become impaired in the future under special circumstances. An important threshold question is whether these individuals are handicapped and thereby protected by the Rehabilitation Act.

In *OFCCP v. E. E. Black Ltd. (17)*, a carpenter's apprentice was required to submit to a preemployment medical examination which revealed

a lower back anomaly known as sacralization of the transitional vertebra. This is a congenital condition found in 8 to 9 percent of the population. Although the disabling long-term effects of the condition are in dispute in the medical profession, the employer conceded that the condition did not affect the applicant's current capability to perform the duties of a carpenter's apprentice. Nevertheless, relying on its medical officer's conclusions, the company determined that the applicant's spinal formation made him a poor risk for later development of back problems and denied him employment. The apprentice filed a complaint with OFCCP, charging the employer with violating section 503.

The Labor Department found in favor of the carpenter's apprentice and ruled that the company's use of preemployment medical examinations tended to disqualify handicapped applicants despite their current capability to perform the job. The Labor Department refused to limit the definition of "impairment" to permanent disabilities such as blindness or deafness. Instead, impairment was held to be "any condition which weakens, restricts or otherwise damages an individual's health or physical or mental activity," resulting in "a current bar to employment of one's choice with a Federal contractor which the individual is currently capable of performing."

On judicial review, the U.S. District Court for the District of Hawaii agreed with the Labor Department that the Rehabilitation Act's coverage was intended to be broad, but it held that the interpretation in the Assistant Secretary of Labor's opinion in *Black* was overly broad (23).^{*} The court pointed out that under the Assistant Secretary's definition of "handicap":

... a worker who was offered a particular job by a company at all of its plants but one, but was denied employment at that plant because of the

^{*}The court granted partial summary judgment to the Labor Department on two points: 1) the definition of "handicapped individual" contained in the act and regulations is constitutional; and 2) the apprentice was a "qualified handicapped individual" under the act and regulations. On all other issues, summary judgment was denied. In a subsequent decision, the case was remanded to the Department of Labor for a decision on whether the employer met its burden for showing a business necessity defense and for formulation of a standard for the determination of business necessity in this kind of case (22).

^{*}41 C.F.R. §60-741.6 (c)(2) (1980).

presence of plant matter to which the employee was allergic, would be covered by the Act. An individual with acrophobia who was offered 10 deputy assistant accountant jobs with a particular company, but was disqualified from one job because it was on the 37th floor, would be covered by the Act. An individual with some type of hearing sensitivity who was denied employment at a location with very loud noise, but was offered positions at other locations, would be covered by the Act (p. 1099).

According to the court, the Assistant Secretary's definition ignored critical language in the act that restricts its coverage to handicapped individuals who are "*substantially* limited" in pursuit of a major life activity. Thus, the court held that not every physical condition that limited employment was covered by the act; to be protected, an individual must have been rejected for a position for which he or she was qualified because of an impairment or perceived impairment that constitutes, for the individual, a substantial handicap to employment. The court discussed several factors to be considered in determining whether an impairment substantially limits employability, including the number and types of jobs from which the individual is disqualified, the location or accessibility of similar opportunities, and the individual's own job expectations and training. With respect to the number and type of jobs from which the individual might be disqualified, the court stated that it must be assumed that all similar employers would use the same preemployment examination.

Based on this definition, the court still concluded that the applicant was subject to the protections of the act. First, the applicant's back condition was found to be an impairment or, at least, was regarded as such by the employer. Second, the impairment was found to constitute a substantial handicap to employment because the applicant would have been disqualified from all or substantially all apprenticeship programs in carpentry. Third, the court rejected the employer's contention that Congress did not intend to protect job applicants who have been denied employment based on risk of future injury,

In the context of genetic screening, it may not be that important whether a slight genetic differentiation is in fact a handicap so long as it is perceived to be a handicap by the employer. Both

section 503 and section 504 include within the definition of handicap an individual who is "regarded" as having an impairment. Further, on the basis of the Black case, a person with a particular genetic trait that is viewed as making him or her susceptible to disease might be found to be handicapped by a court. One factor that the court did not consider in Black and that is especially relevant for genetic screening is the consequences of labeling a person with a congenital or genetic anomaly as handicapped, especially since those factors could be handicaps only in certain environments. The adverse psychological impacts of such labeling could outweigh the benefits conferred by the protection of the act.

Most of the cases concerning the definition of a handicapped individual have been tried in State courts under analogous handicapped discrimination laws. The results have varied widely, and it would be difficult to assess whether a given State would be likely to consider genetic differential in itself as a handicap. Nearly all of the reported cases have been decided under the laws of Wisconsin, New York, Washington, and Oregon (40). The Wisconsin and Washington cases have defined the term handicap very broadly. Other State courts, however, have refused to read the statute so broadly, often on the grounds that the legislatures had not intended them to be universal anti-discrimination laws (40).

In New Jersey, a 1981 amendment to the State employment discrimination law * specifically prohibits employment discrimination based on an individual's "atypical hereditary cellular or blood trait." This is defined to include sickle cell trait, hemoglobin C trait, thalassemia trait, Tay-Sachs trait, or cystic fibrosis trait. Thus, New Jersey has become the first jurisdiction expressly to proscribe discriminatory use of some types of genetic screening in the workplace. Florida, North Carolina, and Louisiana prohibit discrimination in employment based on sickle cell trait.

JOB RELATEDNESS OF SCREENING AND MONITORING

Determining that an individual is covered by the act is only the beginning step in analyzing the legality of genetic testing. The Rehabilitation Act

*1981 N.J.Sess. Law Serv. 535, 538 (West).

protects otherwise qualified handicapped individuals. It still must be decided whether the person is otherwise qualified; if not, the employer would not violate the act by refusing him or her employment.

Pursuant to the regulations under the act, a qualified handicapped person is one who can perform the essential functions of the job with reasonable accommodation to his or her handicap. * The regulations under section 503 permit mental or physical screens to the extent they are job related and are consistent with business necessity and the safe performance of the job. ** The regulations under section 504 permit such screens only to the extent they are job related.*** Thus, the questions become whether genetic screening is job related or consistent with business necessity and safety and, if so, whether genetic susceptibility can be reasonably accommodated. This section addresses the first question and the next addresses the second.

The Labor Department's decision in *Black* conceded that employers could exclude handicapped individuals from jobs on the basis of legitimate job requirements, but it held that only an individual's current capability to perform could be the subject of inquiry in preemployment medical examinations. The district court termed this interpretation "clearly contrary to law." The court posed the situation where, if a particular person were given a job, he or she would have a 90 percent chance of suffering a heart attack within 1 month:

A job requirement that screened out such an individual would be consistent both with business necessity and the safe performance of the job. Yet, it could be argued that the individual had a current capacity to perform the job, and thus was a qualified handicapped individual. ****

However, the court did not formulate its own legal standard for the circumstances under which possible future injury can be the basis of denying employment.

In *Black*, the court based its determination on its reading of the OFCCP regulation that permitted screens that were consistent with business necessity and safe performance of the job. The comparable regulation under section 504, however, refers only to job relatedness. Thus, a discrimination case based on genetic screening brought under 504 could have a different outcome, depending on how job relatedness is defined. If a court were to define it literally, risk of future illness would not appear to be related to job performance. However, if the court were to define it only in a general sense—for example, the *Griggs* case used it as being synonymous with business necessity—then risk of future illness might properly bar someone from employment. Whether the court would look only to the person's current capability to perform the job or would accept a business necessity defense based on the need for job safety is an unresolved question.

The basic principle that a job requirement that screens out qualified handicapped individuals on the basis of possible future injury may be lawful is in agreement with cases decided under State handicapped discrimination laws. However, it is also clear that the burden is on the employer to justify the denial of employment, regardless of whether the problem is viewed as whether the employee is otherwise qualified or whether the employer has made out a business necessity defense.

An employer seeking to justify using a screening procedure that adversely affects handicapped individuals has a difficult burden of proof. As discussed earlier, in *Albemarle Paper Co. v. Moody*, * the Supreme Court cited with approval EEOC's Uniform Guidelines on Employee Selection Procedures ** and held that "discriminatory tests are impermissible unless shown, by professionally acceptable methods, to be 'predictive of or significantly correlated with important elements of work behavior which comprise or are relevant to the job or jobs for which candidates are being evaluated.'" *** For example, in *Black* it was necessary for the employer to prove that: an important part of the job required the lifting

*41 C.F.R. §60-741.2 (1981); 45 C. F.R. §84.4 (k) 1981)

•*41 C.F.R. §60-741.6(c) (1981).

•" *45 C.F.R. §84.13(a) (1981).

••" • FSupp. at 1104

*422 U.S. 405 (1975).

**29 C.F.R. Part 1607 (1980).

** *422 U.S. at 432, quoting 29 C. F.R. §1607.4(c)

of heavy objects, individuals with back problems would not be able to perform the job, and the X-rays of the apprentice's back had a high predictive value in determining the likelihood that the individual would suffer from back problems. A similar analysis would apply to genetic screening.

The relationship between job requirements and future risk of injury has been addressed in State handicapped discrimination cases. In a Wisconsin case (18), the employer excluded an epileptic welder based on evidence that 10 to 30 percent of epileptics under medication still will have seizures. The Wisconsin Supreme Court termed this degree of future risk "a mere possibility" and held that the employer's action was illegal. The court stated that in order to justify an exclusionary practice the employer must show that there is a "reasonable probability" that the characteristics of the employee will result in future hazards to the employee or coworkers. No statistical criteria have ever been established for defining "reasonable probability," but the employer's burden would appear to be quite difficult to satisfy.

Similarly, in an Oregon case (33), an applicant for the job of heavy appliance salesperson was rejected on the advice of the company physician because he had suffered a subendocardial infarction 6 years earlier and had subsequently complained of sporadic angina. The Supreme Court of Oregon upheld the Bureau of Labor's ruling that the disqualification was unjustified because the employer failed to show a "high probability" of future risk of heart attack.

In a California case (64), the employer had discharged a truck driver with a congenital, but not disabling, back condition. The court held that a mere possibility that the employee might endanger his health sometime in the future was inadequate justification for the employer's action.

When there is a strong likelihood that a pre-existing condition will be aggravated by exposure in the workplace, an employer's exclusionary

practice is likely to be upheld. Thus, in a New York case (71), the court upheld an employer's refusal to hire an applicant who was suffering from dermatitis, where the company physician concluded that exposure to the chemical elements in the plant would so exacerbate the dermatitis as to render the applicant unable to perform his duties.

Moreover, employee exclusionary practices are much more likely to be upheld where the employee's health risk could endanger the health or safety of others (40). This has been especially true in cases involving common carriers, such as buses (68).

REASONABLE ACCOMMODATION

Even if an employer can prove that the screening procedure used is job related and highly predictive, the employer still may not be permitted to discharge or refuse to hire the individual if "reasonable accommodation" is possible. Although neither section 503 nor section 504 mentions a duty to accommodate, the regulations under both sections require reasonable accommodations unless it would impose an undue hardship. According to the section 503 regulations, "reasonable accommodation" may include making facilities accessible, job restructuring, part-time or modified work schedules, acquisition or modification of equipment or devices, and similar actions. It is likely, however, that reasonable accommodation to individuals with proven susceptibility to occupational health hazards would be focused on practices such as shift rotation, dividing maximum exposure time, more frequent monitoring and medical surveillance, and the added use of personal protection equipment. It is doubtful that an employer will be required to reduce exposure levels beneath OSHA PELs to accommodate a susceptible handicapped employee. Most State fair employment practice laws do not require reasonable accommodation (40).

Collective bargaining agreements and employment practices

Protected activities of employees

The National Labor Relations Act (NLRA)* grants employees the right to organize into unions and to negotiate with their employer over wages, hours, and conditions of employment. The agreements that result from these negotiations, known as collective bargaining agreements, can create rights and duties between the parties that go beyond those otherwise required by law. Safety and health matters are considered to be conditions of employment and subject to collective bargaining (44).

Although numerous exceptions abound, safety and health concerns traditionally have not been looked on with a sense of urgency by either employers (19) or rank-and-file employees (26).** Moreover, in times of high unemployment and economic recession it may be assumed that employees would give the highest priority to wages, hours, and job security.

A union is under no duty to bargain for specific safety and health provisions. In fact, as long as it acts in good faith, it is not prohibited from making contracts that might have an unfavorable effect on some employees (24). The decision of whether or how best to protect susceptible employees is a policy decision based on various factors, such as the number of employees involved, the nature of the risk, the predictiveness of screening procedures, and the relative strength of the union's bargaining position. A union might be willing to use economic weapons or forego eco-

nomie gains to obtain a provision prohibiting the employer from using genetic screening on the assumption that some qualified applicants or members otherwise will be excluded. On the other hand, a union might bargain to require the employer to use cytogenetic monitoring on the assumption that these techniques may show dangerously high levels of exposure to certain chemicals. The union could then bargain for lower exposure levels or other methods of worker protection.

Employee access to safety and health information

Union efforts at negotiating on safety and health matters are often complicated by an inability to obtain detailed information about conditions in the workplace. Unions frequently have requested, but have been denied access to, employee medical records and the identities, properties, and health hazards of various chemicals used in the workplace (49). Employers often object to the release of this information, asserting a proprietary interest, undue burden, physician-patient privilege, employee confidentiality, or trade secrecy.

In *Minnesota Mining and Manufacturing Co.* * and two companion cases (12,20), the National Labor Relations Board (NLRB) held that unions have a right to obtain individual employee medical records, the generic names of all substances used in the workplace, and other safety and health data. In the *Minnesota* case, NLRB said, "Few matters can be of greater legitimate concern to individuals in the workplace, and thus to the bargaining agent representing them, than exposure to conditions potentially threatening their health,

* 29 [1. S.C.] § 151-168 (1976).

"The study found that "a little more safety and health" was well behind other job improvements, such as increased retirement benefits, more medical insurance, more paid vacations, shorter workweek, greater chance for promotion, and greater job security, as employment conditions for which workers would be willing to forego a 10 percent pay raise (26).

*261 N. L.R.B. No. 2 (1982)

well-being, or their very lives.” NLRB rejected the employer’s claim of proprietary interest as irrelevant and claim of undue burden as unsubstantiated. With respect to physician-patient privilege and confidentiality, NLRB noted that the union did not request the names of individual employees and that confidentiality would be safeguarded by having physicians interpret and analyze the documents. Moreover, NLRB held that even where supplying the union with statistical or aggregate medical data may result in identification of some individual employees, the important need for the data outweighs any minimal intrusion on employee privacy. Finally, as to trade secrets, * NLRB ordered the parties to bargain about conditions of disclosure, but, if necessary, the board would strike the balance between the competing claims of the parties,

Provisions in collective bargaining agreements

Safety and health provisions have been included in collective bargaining agreements for many years, but the passage of the OSH Act in 1970 served to promote greater awareness of workplace hazards and increase the importance attached to safety and health in union contracts (25). Some commentators believe that the collective bargaining process offers great hope in fostering the improvement of workplace safety and health (5). However, it should be noted that only about 20 percent of all workers belong to unions.

Numerous safety and health matters can be negotiated, ranging from medical removal protection and rate retention to the formation of joint labor-management safety and health committees. According to one study (16), 82 percent of the contracts in the sample** contained occupational safety and health clauses. The subjects most often covered were safety equipment, first aid, medical examinations, accident investigation, employee obligations, hazardous work, and safety committees.

● A trade secret is a formula, pattern, device, or compilation of information that is used in one’s business and that provides an opportunity to obtain an advantage over competitors who do not know or use it.

.*The sample contained 400 collective bargaining agreements from a cross-section of industries.

Medical examinations are required in 30 percent of all manufacturing and 28 percent of all nonmanufacturing contracts. Petroleum (86 percent), mining (75 percent), transportation (72 percent), rubber (67 percent), and stone+ lay-glass (54 percent) are the industries where these provisions are most often found. Of the collective bargaining agreements in all industries containing provisions for medical examinations, 29 percent require physical exams for newly hired workers, 34 percent require physical exams when employees are rehired or return to work from layoff or leave, and 74 percent require physical exams periodically or at management’s request. In 40 percent of these provisions, employees may appeal an unfavorable medical opinion (16).

As a matter of widespread practice, applicants and new employees have limited rights under most collective bargaining agreements. For example, the great majority of contracts allow the employer to place new employees on probation for periods ranging from 1 to 4 months. During this period, the new employees cannot join the union and they can be fired without union involvement. This practice would hamper negotiations for restrictions on preemployment genetic screening. However, unions could legally negotiate on this point because applicants are considered employees under NLRA and thus subject to its benefits (52). Under the act, therefore, unions would have broad authority to negotiate with employers on whether genetic screening could be used and, if so, under what conditions.

Union’s duty of fair representation

Although unions have authority to negotiate on genetic testing, are they legally required to do so? It is well settled that a union has a duty, both in its bargaining and its contract enforcement, to serve the interests of all of its members without discrimination toward any. This is known as the duty of fair representation. A breach of this duty will not be established by simple negligence, but requires a showing that the union acted arbitrarily, perfunctorily, or in bad faith (69).

With respect to genetic screening, two questions arise. First, does the duty of fair representation extend to employees who are found to

be susceptible to occupational illness on the basis of their genetic constitution? It is clear that, as employees, they are entitled to fair representation. Second, does a union's duty of fair representation extend to job applicants who are refused employment on the basis of genetic screening? The answer to this question is less clear. Applicants are considered "employees" under NLRA (52), and the union would probably have a duty to enforce an existing agreement containing a provision dealing with preemployment genetic screening. However, it is unlikely that the union would have a duty to negotiate a contract with such a provision (29).

Contract enforcement and arbitration

Most collective bargaining agreements contain an express provision for resolving contract disputes through an internal grievance procedure.

Conclusion

Genetic testing raises legal questions related to workplace safety and employee rights. The common law, State workers' compensation statutes, and the OSH Act outline the rights and duties of employers and employees with respect to safety. Title VII of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, and State fair employment practice laws govern rights and duties with respect to hiring, firing, and conditions of employment. Although these statutes and the court cases interpreting them by and large have not dealt with genetic testing, they provide legal principles that are directly applicable to the issues raised by this technology. The principles can provide guidance and some answers to the questions at hand; however, many important questions remain unresolved. In such a situation, the collective bargaining agreements authorized by NLRA could provide a means for employers and unions to negotiate mutually agreeable solutions to the problems raised by genetic testing.

With respect to safety in general, it is clear that the common law and the OSH Act place the responsibility for workplace safety on the employer.

If a dispute remains unresolved, however, almost all contracts provide that it will be submitted to an arbitrator voluntarily selected by the parties to the contract.

Since each arbitration decision is based on the specific contract involved, the way arbitrators construe medical examination provisions cannot be generalized. Nevertheless, in cases involving discharge or denial of reinstatement to employees with physical disabilities, dismissal will usually be held to be inappropriate unless the evidence indicates that the employee's disability prevents him or her from performing a job or exposes the employee or other employees to a serious risk of physical harm or injury (74). Even in cases where continued exposure may be injurious to the worker, arbitrators have been willing to allow employees to decide whether to continue work to as long as they are able to and create no risks to others.

Failure to meet the responsibility can result in workers' compensation payments, damages assessed against the employer for tort liability, or civil or criminal penalties against the employer.

This responsibility would not require the employer to use genetic testing, even if it were highly predictive of future illness. If the employer chose to use a highly predictive test, it would likely be negligent if it ignored the results of screening and placed the employee in a high-risk rather than a low-risk environment. However, recovery of damages by such an employee who developed the predicted illness would probably be barred by the "exclusive remedy" provision of workers compensation laws and possibly by the doctrine of assumption of the risk, if the employee had been informed of the risk. If the risk had been concealed from the employee, recovery would probably not be barred under workers' compensation laws, and the employer would face the possibility of punitive damages.

Under the OSH Act, the Secretary of Labor is empowered to promulgate standards that protect

all employees from toxic substances to the extent that the standards are directed toward a significant risk of material health impairment and to the extent that they are technologically and economically feasible. These standards can, among other things, set maximum exposure levels, require personal protection gear, and mandate various medical procedures. The feasibility requirement may leave some percentage of exposed workers at risk, depending on the circumstances of the particular hazardous substance and industry. Of those workers at risk, some may be genetically susceptible and others may be at increased risk because of genetic damage. An open question is whether the courts would allow a standard designed to protect a very small number of susceptible individuals or would invalidate it on the grounds that it failed to address a significant risk because of the small number of workers involved.

The OSH Act and regulations thereunder neither prohibit nor require genetic testing. However, the Secretary of Labor has broad authority to regulate employer medical procedures as long as the regulation is related to worker health and meets the feasibility and significant risk requirements. Therefore, the Secretary could require genetic testing in its various forms, if the techniques were shown to be reliable and reasonably predictive of future illness. The Secretary also could regulate the use of genetic testing, but only to the extent that the regulation was related to employee health. The act grants no authority over rights or conditions of employment per se and no authority to protect applicants for employment from discrimination.

State and Federal law places few restrictions on either the way medical exams or testing procedures must be conducted in the workplace or what the employer does with the resulting information other than the requirements that the procedure not be negligently performed and that the employee be informed of potentially serious health risks. Participation in medical exams or medical research can be a valid condition of employment. As a result, employees or applicants would have no right to refuse to participate without jeopardizing their job. How much the employee needs to be told about the research is unclear, except in two cases. If the research were

federally funded, subjects must understand the risks and other aspects of the study and consent to them. A few States have statutes that require Institutional Review Boards in order to protect research subjects, and these boards may require informed consent.

With respect to the data generated by genetic testing, there are few requirements regarding confidentiality except in the State of California. But employees have a right of access to medical records under OSHA regulations and unions have a similar right under a recent decision by NLRB. This access could help prevent abuse of genetic testing. However, those who face the greatest risk of being denied employment because of their genetic makeup—job applicants—would not have access to the test results.

For those applicants or employees who were subject to some adverse job action because of their genetic makeup, Federal and State antidiscrimination statutes may offer some relief, depending on the circumstances of the case. A few States prohibit employment discrimination based on certain genetic traits, usually sickle cell trait. To the extent that genetic screening has a disparate effect on the employment opportunities of one of the protected classes under title VII, an adversely affected genetically susceptible employee in one of those classes would have a prima facie case of discrimination against the employer. The employer would then have to carry the heavy burden of justifying the screening program on the basis of job relatedness or business necessity. It is presently unclear whether avoiding tort liability or the cost of engineering controls is a business necessity or whether the employee's capacity to perform the job without a risk of future illness is a job-related characteristic. However, it is clear that any job selection method must be predictive of the characteristic for which it allegedly selects. Since genetic screening has not been shown to be predictive of future occupational illness, a program that had a disparate impact on the employment opportunities of the classes protected by title VII probably would violate that act.

The Rehabilitation Act and similar State laws offer greater potential than title VII for aiding the employment opportunities of genetically suscep-

tible individuals; however, for those laws to be applicable, two currently unresolved legal questions must be settled in favor of the employees. The first is whether or not genetic makeup is a handicap. If not, these employees would have no rights under these laws. If it is a handicap, the next question is whether a reasonable probability of future illness would be a valid job-related requirement or something going to the necessity of the business. Some State courts have ruled that employment may be denied to handicapped individuals on the basis of a reasonable probability of future illness. If the courts were to rule that future risk of illness was not a legitimate area of inquiry for employers, the Rehabilitation Act and similar statutes would prohibit adverse job actions on the basis of genetic makeup. If risk of illness were recognized as a legitimate concern, the employer would have the burden of showing that the genetic screening techniques were reasonably predictive of illness. Even if the employer dem-

onstrated this, however, it might have to accommodate the “genetically handicapped” employee anyway. Such accommodation probably would not require the installation of expensive engineering controls. In addition to these unresolved questions, a limitation on the Rehabilitation Act from the plaintiff’s perspective is that plaintiffs must pursue their remedies under section 503 through OFCCP rather than suing employers directly.

Virtually all of these questions could be subjects of bargaining between employers and unions. Thus, individual employers and unions could decide for themselves whether the employer could use genetic testing, the circumstances under which it could, and the use that could be made of the results. Unions, however, would have no legal duty to bargain over such issues or to take special steps to protect workers who were genetically predisposed to occupational disease.

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