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A Guideline to Preemployment Screening

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A GUIDELINE TO PREEMPLOYMENT SCREENING

by

Jeanne M. Hall
Bachelor of Science Physical Therapy
University of North Dakota, 1983

An Independent Study

Submitted to the Graduate Faculty of the

Department of Physical Therapy

School of Medicine

In partial fulfillment of the requirement

for the Degree of

Master of Physical Therapy

Grand Forks, North Dakota

May 1993
This Independent Study, submitted by Jeanne Hall in partial fulfillment for the Degree of Master of Physical Therapy from the University of North Dakota, has been read by the Chairman of Physical Therapy, under whom the work has been done and is hereby approved.

(Chairperson, Physical Therapy)
PERMISSION

Title A Guideline to Preemployment Screening
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ABSTRACT

This paper presents a literature review of ways to reduce the cost of Worker's Compensation Claims. Years reviewed are 1976 through 1992. Methods reviewed in this paper include preemployment screening, preplacement screening, job analysis, Ergonomics as it relates to preemployment screening, and the legal aspects of preemployment/preplacement screening. Guidelines are given for formulation of preplacement screening.
Chapter I

Introduction:

Medical costs in the United States have doubled in the last five years and are expected to double again before 1995.¹ In 1991, $670 billion were spent on health care. Health care spending is anticipated to be $740 billion in 1993, a $70 billion increase.¹ These rising costs are placing an ever increasing strain on the gross national product and are compounding the problems of economic stability in the nation. Losses from workplace injury not only result in a reduction in productivity, but also produce a direct loss due to Worker’s Compensation claims.¹ This national trend is also seen in North Dakota. In 1970, North Dakota Worker’s Compensation spent $6 billion on claims.¹ This year, the claims are expected to cost $55 billion.¹

Historically, employers in North Dakota have paid a set premium for Worker’s Compensation. This premium is based on cost of claims made during the preceding five years, on total number of employees, and on the nature of the work.² As of July 1, 1992, employers also must pay the first $250 of all medical expenses incurred by their employees for an injury on the job.²
Businesses in North Dakota are continually seeking ways to help reduce Worker's Compensation premiums and costs due to lost employee time. Some methods for cost reduction include: limiting injuries requiring medical attention by increasing and improving job safety standards,\(^1\) hiring only those who are physically capable of performing the work (preemployment or preplacement),\(^4\),\(^5\) and reducing lost worker's time by allowing the employees injured on the job to return to "modified" work duties.\(^1\)

Methods used to reduce employer costs require more concise and specific information relating to the work than is usually found in the average job description. The employer needs a job analysis\(^6\) that includes specific information concerning the physical demands of the position along with the description of the job requirements to the prospective employee. The job analysis would assist in matching the physical demands of the job. It also facilitates earlier return of injured employees to the workplace. It will also be helpful in determining any reasonable accommodation as required by the Americans With Disabilities Act (ADA).\(^10\)

Early return to work by injured employees is one way employers can reduce Worker's Compensation costs. It also aids employers in meeting requirements of the new Americans With Disabilities Act (ADA).\(^7\) Early return to work may involve modifying the worker's duties, modifications to the work site, or a combination of both. Physical limitations
on return to work that are placed on an employee must be documented by the employee's primary health care provider and given to the employer. These limitations can then be compared to the analysis of the preinjury position, and modified work tasks can be identified that match physician's restrictions. If the job cannot be modified to meet the physical restrictions, the employer can look at other job analyses to see if they match the employee's restrictions. The job is then modified by giving the employee work that most closely matches the restriction until they are no longer necessary.

An employment screening process can also reduce employer's Worker's Compensation costs by matching employee's abilities to the job requirements. In the early 1970's, preemployment screening⁸ was used as a way to match employee's abilities to the job. Now, however, because of litigation concerns, some employers are doing preplacement screening⁹ after hiring. In the preplacement screening, if the employee is unable to meet the job requirements, they cannot be placed in the position they were tentatively hired for. In some cases, depending on the availability of other jobs, the employee can be placed into another position that more closely meets that employee's abilities. If this can not be done, they would not be hired.
Chapter II

Literature Review:

A review of current literature relating to preplacement screening processes as a method of reducing employer Worker's Compensation costs identified 13 books and 59 articles. Topics used for the search were Ergonomics (6 books, 9 articles), preplacement screening (3 books, 9 articles), strength/fitness testing (1 book, 12 articles), job analysis (5 books, 1 not used, & 2 articles), ADA (1 book, 5 articles), back pain prevention (1 book, 13 articles), management of medical records (6 articles, 1 not used), biomechanics of lifting (2 books, 5 articles), and functional job descriptions (2 articles).

Four of the five articles on management of medical records indicated that any records pertaining to medical information, including those on injuries occurring on the job, must be kept in a separate file and that access to this file be limited. Access to this file is limited to the injured employee, the employee's physician, and the employer's Worker's Compensation claims administrator. Limited access to information concerning job related restrictions may be given out to the employee's immediate supervisor so that job duty decisions
can be made.\textsuperscript{11,12,13,14,15} The confidentiality of medical information is also addressed by ADA.\textsuperscript{10}

Job analysis is approached in a number of ways in the literature. An explanation of how to develop a questionnaire as a method for analyzing job requirements is given in Gael,\textsuperscript{16} Chaffin \& Andersson\textsuperscript{17}; Business \& Legal Reports\textsuperscript{19}; Guinn\textsuperscript{20}; Chaffin, Herrin, Keyserling, and Foulke\textsuperscript{57}; and Work Practices Guide for Manual Lifting\textsuperscript{23} address job analysis by looking at the physical demands of the job. Nelson\textsuperscript{18} suggests the use of the job physical demands analysis worksheet (Appendix 1) developed by the National Council on the Aging. The Occupational Health Monitoring and Evaluation System (OHMES)\textsuperscript{43} requires a rigorous evaluation of the physical stresses imposed on a worker while performing manual materials handling activities.

Business \& Legal Reports\textsuperscript{19} describes three methods of job analysis including interviews, functional job analysis using the Dictionary of Occupational Titles, and critical incident technique.

Guinn\textsuperscript{20} gives a series of steps that should be taken to complete a job analysis, while Liles, Dievanayagam, et al\textsuperscript{21} gives a Job Severity Index formula to measure the physical stress level associated with jobs that require lifting. The environmental conditions the employee is exposed to during work also have to be determined as in the form\textsuperscript{58} currently used by Minnesota insurance carriers.
and Worker's Compensation (Appendix II). The intent of this form is to brief the physician on the job requirements of an employee returning to work after an injury so that they can make appropriate recommendations concerning return to work. ADA also gives a format for job analysis. All the literature on job analysis indicated that review of the job description is helpful when performing a job analysis.

A job description is used to define the type of work for hiring, instructs the employee in potential duties, and provides a mechanism for job performance evaluation. Most job descriptions are task orientated. However, because of the need to modify duties for the injured worker or for listing essential functions of the job to meet ADA standards, this method will not work. Burkhalter states that before a job description can be written, a job analysis is needed, and should include analysis of important work behaviors required for successful performances and their relative importance to work productivity. This article also gives a sample job description.

Isernhagen uses a functional job description to describe the physical position and strength needed to use tools, define the posture needed by describing the worksite physical parameters, look at the total worksite for outside stresses (environmental) on the worker, and evaluate work pattern requirements that may lead to fatigue. A functional job description is a link between the work task and problem
resolution for increasing safety in the workplace, returning the injured worker to the work force, and making accommodations for the disabled worker.

According to the ADA,10,30,31,32 job descriptions need to be broken down into essential functions and marginal functions. Essential job functions describe the primary job functions (example: provide a type-written document or move an object from one place to another), but not how it should be performed (use a typewriter or lift and manually carry). Marginal functions are all the other job tasks that don't qualify as essential functions of the job. Examples of marginal functions would be filing for a proof reader, driving for a stockbroker who only works in an office, or cooking for a food editor.32

The use of Action Limit (AL) to estimate the average weight lifted in a given job that can be safely performed by 99 percent of males and 75 percent of the female23 worker population is outlined in the U.S. Public Health Guidelines23 and Liles & Mahajan.24 This formula is:

\[
AL(\text{kg}) = 40(15/H)(1 - 0.004[V - 75])(0.7 + 7.51/D)(1 - F/F_{\text{max}}).
\]

They also describe how Maximal Permissible Limit (MPL[MPL = 3AL]) and AL can be used to determine lifting criteria to be used on the job. The U.S. Public Health Document23 also includes diagrams to illustrate the use of the above formulas.

Prior to the ADA, there were several articles written on preemployment or preplacement screening. Alexander,
Maida, and Walker\textsuperscript{25} feel that because a preemployment medical examination is done to assure that the job description matches the physical and mental capacities of an applicant for reasons of health and safety, the necessity for such an evaluation for job applicants to non-hazardous work assignments may be questioned. Schussler, Kaminer, Power, and Pomper\textsuperscript{27} indicate that although the preplacement examination has been around since the first industrial revolution (established by law in England), the enactment of Worker's Compensation helped to widen the scope of the preplacement examination. Their study evaluates the routine preplacement medical examinations performed at IBM. Montgomery\textsuperscript{28} reviews the use of preemployment back x-rays, starting in the 1920's and ending in the 1970's. X-rays may have a place in preemployment examinations, but should not be utilized as the sole screening method because they are more useful in assessing the current status than in predicting future low back disabilities. Althouse\textsuperscript{41} indicates x-rays are extremely valuable as a diagnostic tool in identifying pathologies, but the value diminish as when the procedure is utilized purportedly to identify predictive susceptibility to musculoskeletal injuries in stressful occupational exposures. He outlines the philosophical changes from the preemployment physical examinations that screen out the physically and mentally less fit to the more humanistic practice of preplacement screening, which emphasizes the capabilities of the less physically able and
the utilization of individual skills within the parameters of demonstrable abilities. Time motion studies, relevant to specific positions, are used to determine the positions a worker needs to assume when performing his job duties. In no way can the ability of a candidate for job placement to perform basic work motions from a sampling of the more common work motions, as established by time and motion studies done on the position applied for, be construed as a predictive of future potential orthopedic disabilities. But, they do assist remarkably in the placement of individuals in employment situations by emphasizing the capabilities and usable skills within the parameters of demonstrable abilities, despite evident handicaps.\textsuperscript{29,41}

Keyserling, Herrin, and Chaffin\textsuperscript{53} investigated the use of the isometric strength test to reduce occupational injuries in workers selected for strenuous jobs where there is a potential for a mismatch between worker strength and job strength requirements. Chaffin, Herrin, and Keyserling\textsuperscript{4} confirm the need to utilize some form of a strength program when placing people on jobs requiring significant manual materials handling. Snooks\textsuperscript{38,52} indicates that although job design is an effective approach, it's hard to apply this principle when there is no job station. He indicates that existing data shows strength and fitness testing to be the most effective approach to preplacement testing and selection of workers. However,
medical history is also important, specifically when episodes of previous musculoskeletal disorders are revealed.

Davis & Dotson\(^3\) show age to be poor predictors of job performance. They propose the concept of functional age (based on physical performance abilities) rather than chronological age. Physical testing should be required periodically, and not just as the basis to gain employment. If it is important to demonstrate fitness in order to become trained for a job, it is even more important to maintain fitness once on the job.\(^3\) Stewart's\(^4\) illness/injury prevention strategies, such as preplacement testing, are most easily accomplished and most effective when the origins of the injury of illness are well understood after review of all injury and illness reported to company clinics.

Rodgers\(^4\) indicates a person's capacity for physical work is not a single value, but determined by several factors including the time of continuous effort, the frequency of repeating the effort, the presence of environmental or mental stressors, such as heat, humidity, and time pressure, the individual characteristics, such as age, fitness, and skill level for the task, and the number and size of the active muscle groups. She uses job evaluation data to match job demands with people's work capacity through preplacement evaluation programs. She also looks at job demands and tries to relate them to the capacities of the entire work force by describing the
percentage of the population that will find the demands acceptable to assist in workplace redesign.

The National Institute for Occupational Safety and Health (NIOSH) Preemployment Strength Testing reviewed past studies to develop medical selection criteria that includes: gender, age, body weight, stature, posture and mobility, clinical examination and x-rays, and strength testing. Risk-orientated employment screening is addressed by Ulin & Armstrong, by the Texas Law Review and by Isernhagen. Risk-orientated screenings' point of view is defined by a worker's fitness to do a job, or the risk associated with performing a job, which may affect the company's cost of doing business in a variety of ways. Isernhagen goes on to differentiate the differences in preemployment screenings, preplacement evaluations and return to work evaluations.

The ADA complaint preplacement screening is addressed by Connolly, Winter, Ulin & Armstrong, Scnepp, and Matheson. These articles indicate that the screening must simulate specific job functions, be given to all applicants considered for the job, and not discriminate against persons with a disability.

Stultz has written an unpublished paper that compares preemployment screening versus Ergonomics. He indicated the primary flaw in preemployment screening is its reliance upon one of the variables that comprises the work system, the individual. The Ergonomics advantage is
its ability to consider all of the factors that provide balance in a job in an effort to provide a safe and productive atmosphere.
Chapter III

Job Description:

Job descriptions serve two groups. The first group is the employer. The employer uses a job description to define the type of work for which hiring, to instruct the employee in potential duties, and provide a mechanism for evaluating the employee's job performance. The employee is the second group. They must be able to understand the job description as it is written by the employer. The employee may use the job description as a reason to perform or not perform a specific task. Labor union activities has resulted in job descriptions that are more specific and sometimes more binding in terms of expansions or limitation of tasks.\(^5\)

In the 1980's the health professionals became more involved in returning the injured worker back to the job. From the health professional's standpoint, functional job descriptions aided in preemployment screening, matching the worker to the work, and assist worker reinstatement after injury.\(^5\) According to Isernhagen,\(^5\) the functional job description includes:
1. An accurate description of the physical positions and strength needed to use the tools of the job.

2. Describes the physical parameters of the worksite and the postures an employee needs to assume.

3. A list of outside stress on the worker such as lighting, noise, clutter, temperature extremes, etc.

4. A list of the work pattern requirements (job task sequence, time allotted for each sequence, weight/size of objects to be lifted, etc.)

With the passage of the Rehabilitation Act (Rehab. Act) of 1973, disabled individuals became recognized as a protected group. Under this Act, government agencies, contractors and subcontractors were required to take affirmative action to employ and advance qualified disabled persons in employment. Employers had deep-seated reservations about hiring the disabled because of a poor understanding of the legal environment, and vaguely defined positions within the organization. The Guidelines Orientated Job Analysis methodology for writing job descriptions was recommended to assist employers.

The first step of the Guidelines Orientated Job Analysis was to conduct a job analysis. The second step was to use this information to write the job description.
Regardless of format used for writing a job description, it should include:

1. Job domains or major responsibilities of the job. (An example is office management, 45%; accounting, 20%; records management, 15%; graphic arts, 10%; and office services, 10%).

2. Job duties or a single identifiable job activity. (An example would be taking and transcribing oral dictation under office services outlined above).

3. Knowledge, skills, and abilities needed for the job.

4. Special requirements or items that are related to the terms and conditions of the job. (Examples are a willingness to comply with a dress code, work overtime, or travel out-of-state.

5. Physical capabilities or capabilities needed to perform the job.

6. Credentials and job experience. This would include degrees, certifications, licensure, credited workshops, or years of experience.

On July 26, 1990, President George Bush signed the Americans With Disabilities Act (ADA), title I. This Act attempts to address several important issues that had been introduced, but less effectively addressed, in section 504 of the Rehab. Act of 1973. One of these issues was a job
description that divided job duties into essential job functions and marginal job functions. A job analysis is recommended to help identify the essential and marginal job functions. Identifying the essential functions of a job includes:

1. Determining if the employees in the position actually are required to perform the function.
2. If removing the function would fundamentally change the job.
3. The reason the position exists.
4. Is there a limited number of employees available to perform those functions?
5. Is the function highly specialized?

The essential functions would be the basic duties that are required to perform the function of the job, not how it is done. An example would be to move a patient from a bed to a wheelchair, not physically lifting the patient from the bed into the wheelchair. Marginal functions are those that can be performed by other employees without changing the main reason for the job.

The functional job description, guideline orientated job description, and the essential functions job description all agree that you need to complete a job analysis before you can write the job description.
Chapter IV

Job Analysis:

A job analysis is not a job description. It goes well beyond the one or two page subjective description of a particular job. Guinn describes a job analysis as a systematic identification of the specific tasks involved, the frequency of the tasks, and their importance to successful job performance. In addition, the prevalent working conditions, the required worker skills, and behavior critical for successful performances of the job are all spelled out.

Burhalter indicates that a job analysis is the single activity that will determine whether personnel practices are effective and legally defensible. A major force that has made job analysis a mandatory consideration is employment opportunity legislation. A job analysis includes an analysis of the important work behavior(s) required for successful performance, their relative importance, if behavior results in work product(s), and an analysis of work product(s).

According to the ADA, a job analysis is a "written document that identifies an individual's work activities in a specific position to determine the sequence of performance using specific machines, equipment, and tools within a
specific environment requiring a defined range of physical and mental demands".

All job analyses should be performed by an individual who has experience in work measurement. The individual must be aware of all tasks associated with the job, including regular daily activities and infrequent tasks. Jobs should be analyzed exactly as they exist at the time of the study, not as the analyst envisions them. Adequate information should be obtained from the supervisor when it is impossible to observe all changing conditions of a job.\textsuperscript{18,19,44}

When completed correctly, the reliable analysis of any given job results in a listing of\textsuperscript{20,23,57}:

1. The physical and mental demands.
2. The degree of stress.
3. Nature of the work environment.
4. The frequency of task performance.
5. The sequence of steps.
6. Time and motion requirements.
7. The tools and equipment used.
8. The importance of each task for successful completion of the job.

Skills necessary for proper job analysis include\textsuperscript{48,54,58}:

1. The ability to accurately and objectively measure and observe behavior.
2. Interviewing skills to obtain relevant information.
3. The ability to document accurately.
4. Knowledge of the world of work.
5. The ability to integrate information (i.e. How does the task integrate with body dynamics?).
6. Knowledge of disabilities and effect on range of motion.
8. Knowledge of resources (i.e. Job Accommodation Network or the ADA Hotline).
9. The ability to articulate options and alternatives from knowledge of adaptive/assistive devices or aids.
10. The ability to organize material and develop reports.

The following equipment is useful when you perform a Job Analysis:

1. Scale
2. Tape measure
3. Push/pull (strain) gauge
4. Copy of the job description
5. Camera and/or video camera
6. Film and flash

Several sources of information are needed for adequate job site analysis. The first would be the physical dimensions of the work place itself. Gathering this data may require the use of a scale, tape measure, strain gauge, or a camera. Physical data includes the weight of the
objects lifted, the height the object is lifted, the
difference in height the objects are being lifted from and
to, the maximal horizontal distance between the base of the
spine (L5/S1) and the load's center of gravity, and the
frequency (lifts/hour) of the lifting task for physically
strenuous jobs. For the jobs that
require less physical activities, measurements would be
taken of work stations (i.e. desk or workbench), work
objects (objects on which work is being performed; i.e.
software), tools and equipment used.

The second source of documentation describes the
repetitive exertions, forceful exertions, postures,
localized mechanical stresses, vibrations, and environmental
conditions. The job description, video
camera, and possibly a goniometer are useful in obtaining
this information.

Finally, anthropometric data should be obtained to
understand some of the variations in employees performing
the same jobs. This data includes:

1. Individual's body length (to top of head).
2. Height to top of shoulders/hips.
3. Arm span (finger top to finger tips with arms
   at shoulder height) and arm length.
4. Length of hand and forearm.
5. Knee height in sitting.
6. Arc of vertical grasp in the sagittal plane
   (sitting).
7. Height to which a free standing person can reach.

8. Horizontal arc of grasp at table top level.

9. Range of operation of the feet (sitting or standing, depending on the job).
Preemployment Screening:

Montgomery\(^2\),\(^5\) reported the use of preemployment back x-rays as early as 1928. In one study, up to 40% of the x-rays of the applicants showed abnormalities. This study reported no differences in the incidence or duration of injuries by the virtue of these defects, but observed a sharp drop in accidents. Another study in 1944,\(^2\) of 450 preemployment back x-rays, found 31% had significant pathological changes severe enough in 15% to render them unemployable. Stewart's study\(^2\) in 1947 indicated the use of preemployment back x-ray screenings in stevedores had resulted in an 82% reduction in disability due to backache. During the period 1926 to 1961, National Safety Council statistics revealed a four-to-five-fold drop in the frequency and severity of accidents.\(^2\) This was attributed to use of preemployment x-rays, but there was also an increase in safety education going on at the same time.

In 1973, the American College of Radiology, the American Academy of Orthopedic Surgeons, and the Industrial Medical Association collaborated with the NIOSH, on a conference that reviewed the use of low back x-rays in preemployment examinations.\(^2\),\(^5\) They agree that while
x-rays may have a place, they should not be used as a sole method of screening and are more useful in assessing the status of the back at the time of hiring rather than a predictor for future injury potential.

Other types of medical examinations include:

- history\textsuperscript{13,25,27,38,43,52}
- basic measurements (height, weight, blood pressure, pulse)\textsuperscript{27,29,42,52}
- psychological\textsuperscript{18,27,29,42,50,52}
- urinalysis\textsuperscript{27}
- blood\textsuperscript{27,52}
- vision screening\textsuperscript{18,27,29,52}
- audiology\textsuperscript{18,25,27,29}
- chest x-rays\textsuperscript{25,27}
- and stool examination (cafeteria staff)\textsuperscript{27,52}

A basic assumption in performing preemployment medical examinations is that it can be predictive for attendance or work performance. In two studies, no difference between control group (medical reports indicated no problem for all job applicants in this group) and the trial (job applicants' medical problems identified to employer) were identified for overall job performance, appropriateness of the job match, and work force losses\textsuperscript{25,27}

In the 1970's, the trend in preemployment screening turned to strength testing. Chaffin\textsuperscript{4,17,43,57} purported that a worker's likelihood of sustaining a back injury or musculoskeletal illness increases when job lifting requirements approach or exceed the strength capacity demonstrated by the individual on an isometric simulation of the job. An isometric test eliminates exposing the person to the hazard of dropping the object. It also eliminates the dynamic stress imposed by the motion imparted to the
object. The isometric tests consist of three tests referred to collectively as the Standard Posture Test and a fourth test referred to as the Job Position Test. The Standard Posture tests are (1) lifting a compact object close to the floor using a leg/squat lift technique; (2) lifting a bulkier object from the floor using a back lift technique; and (3) lifting an object from a table or bench using an arm lift. The Standard Posture Test is performed as a person simply increases the forces exerted on a set of static handles to the level felt to be his/her maximum volitional force-producing capability.

Biomechanical job evaluations provide the basis for establishing the Job Position test, which replicates the hand locations found to be the most strength required in the job into which he/she is being placed. Total testing time should be 30 minutes. The problem with these tests is the availability of the equipment and the space in which to perform the tests.

In the 1980's, employment procedures to determine potential or real orthopedic disabilities, which could result in a Worker's Compensation claim, were being critically re-evaluated by corporate risk managers, medical directors, insurance loss control and claims specialists. Over the past three decades, the philosophy of preplacement physical examination shifted from one of "screening out" of the physically and mentally less fit to a more humanistic practice of preplacement screening, which emphasizes the
capabilities of the less physically able and the utilization of individual skills within the parameters of demonstrable abilities, despite evident handicaps. Work motion profile or biomechanical assessment forms a base-line from which the replacement assessment of musculoskeletal work functions may be initiated.

Chaffin, along with several other authors, indicate that after the biomechanical study has identified critical strength-demanding tasks of the job, an isometric screen can be used for any given job. The isometric strength test consists of two separate tests. The Standard Posture Test is done with a set of static handles (set at three different heights), having the applicant exert an upward force (one test at each level) until he/she feels they have reached their maximal volitional force-producing capacity. The Job Position Test replicates the hand location found to require the most strength in the job during the biomechanical evaluation. This test is administered four times to estimate the repeatability of the task on the job. Altering positions during this test is acceptable because it is believed to simulate the job demands of heavy lifting in industry. Later in the 80's, dynamic, rather than isometric, lift abilities became popular.

An ergonomic approach to reducing on-the-job injuries also started in the early 80's. Ergonomics is a study of man's behavioral response to his work. The
Ergonomic research is used in the adaptation of work conditions to the physical and psychological nature of man. This way of looking not only at the working conditions, but also the status of current employees, demonstrates another way of reducing the number and cost of work injuries. It also assists in changing the approach to preemployment screening by looking at the applicant’s capabilities and usable skill within the parameter of demonstrable job simulation abilities. However, Ergonomists often feel that modifying the job to fit the employees should be used instead of preemployment/preplacement screening.

NIOSH has defined the criteria for prework screening. The five evaluation criteria are: safety of administration, reliability, job relatedness, practicality, and predictiveness. Another criteria that must be recognized is discrimination potential.

Preemployment evaluations are applied to job applicants to separate the fit from the unfit, the healthy from the unhealthy. The results should assure that the job demands will not tax the individual’s capacities beyond safe limits. The preemployment evaluation may discriminate against handicapped, older, or female job applicants.

When ADA went into effect in 1990, it made preemployment evaluations illegal.

Preplacement evaluations
replaced them. Preplacement evaluations are given to candidates who have a bona fide offer of employment and are useful for the purpose of placement, rather than hire.55

Both the preemployment and the preplacement evaluations require a job analysis to determine the requirements of the job before a screening test can be developed. To pass legal muster, both also needed to be passable by employees currently in the job. However, the preplacement evaluation needs to be a job specific test, 7,10,19,22,30,32,33,36,37 while a preemployment evaluation can be a general test that uses similar movements or tasks (not task specific). Matheson37 gives an example of two preplacement screenings, one of which meets (computer program evaluation for data processing) the ADA guidelines, and another that doesn't (grip strength testing for assembly line work).

A guideline to use for initiating a preplacement screening is:

1. Perform an analysis of all jobs the screening will involve and develop essential job functions.
2. Develop test to evaluate the essential job functions.
3. Test employees currently in that job to determine if it tests what essential job functions are and if the current employees can perform the test.
4. Test is appropriate if answer to #3 is yes; if not, go back to #2 and redesign your test and follow the listed sequence progression until the answer to #4 is yes.

5. Any medical information and information obtained during a preplacement screening must be kept in a separate file that is confidential and access must be limited to it.10,11,12,13,14,15

Other options that will assist employers in reducing Worker’s Compensation costs are:

1. Look for trends in injury reports than evaluate that job site for job modifications or accommodations.24,34,46,49

2. A comprehensive injury prevention and education helps the employee understand that they have to assume some of the responsibility for their own safety on the job. 46,50,52,56
Chapter VI

Conclusions:

As early as the first industrial revolution, the evaluation for preplacement in the job was established by law in England. In the early part of this century, the Worker's Compensation laws helped to widen the scope of the preplacement examination in the United States. In the 1920's, back x-rays were used to eliminate workers with abnormalities present on their x-ray. In the 1960's, medical history became more important than back x-rays. At this time, the back x-rays were used more as a "before and after" comparison for on-the-job injuries. Legislation in 1973 and 1990 caused changes in preemployment screening to help reduce the discrimination (disability, age, sex) built into the strength tests used in the 60's, 70's, and 80's.

The ADA limits preplacement evaluation to: (1) be done after a conditional job offer has been made; (2) being given to all applicants being considered for that job; (3) has to offer accommodations if requested; and (4) has to test the essential job functions (not marginal function/can be performed by someone else).

Employers need to consider the cost of pre-placement screening before deciding on its use. A few other less costly ways of reducing Worker's Compensations costs may be
job modification, Ergonomics, and ongoing safety education/training for current and new employees. These last two suggestions should also be used along with preplacement screening for maximization of safety on the job.
BIBLIOGRAPHY


10. Americans with disabilities act of 1990. Title I.


APPENDIX I

JOB PHYSICAL DEMANDS ANALYSIS

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<thead>
<tr>
<th>Date</th>
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- reaching -
- above shoulders noise
- below shoulders vibration
- throwing radiant energy
- kind:
- sitting % day toxic conditions
- standing % day dust
- walking distance/% day
- running distance/% day
- jumping
- climbing vapors of fumes:
- stooping
- crouching other
- kneeling
- crawling
- twisting
- hearing communication
- talking
__ vision - far
__ near
__ color
__ depth

ervisor ____________________________ Date ______________

Adapted from the National Council On the Aging Job Analysis Form
ON-SITE JOB ANALYSIS

1. Exact job title ____________________________________________
2. Date of hire __________ Date began present position __________
3. Training required to perform duties __________________________
4. Work hours: from _______ to _______ no. of days per week _______
   Breaks: first from _______ to _______ Overtime: hrs. per week _______
   meal from _______ to _______ how often _______
   last from _______ to _______
5. Any work restrictions when hired Yes No. If yes, specify:
6. General description of job:
7. Types of machines, tools, office equipment and other special equipment used in job:
8. Vehicles or moving equipment driven as part of job:
9. Amount of each day spent
   Standing % Walking % Sitting % Total 100%
10. Employee works: Inside % Outside % Total 100%
11. While performing job, employee required: how often how long per day
   A. to twist yes no ___________________ ___________________
   B. to stoop/bend yes no ___________________ ___________________
   C. to squat yes no ___________________ ___________________
   D. to kneel yes no ___________________ ___________________
   E. to crawl yes no ___________________ ___________________
   F. to climb ladders yes no ___________________ ___________________
   G. to climb stairs yes no ___________________ ___________________
   H. walk on uneven ground yes no ___________________ ___________________
   I. work above ground on yes no ___________________ ___________________
12. The heaviest weight lifted while either sitting or standing in one place weighs __________ the object's name is __________ and the estimated times lifted daily is ________.
13. The heaviest weight carried while walking from place to place weighs __________ the object's name is __________ and the estimated times carried daily is ________.

Continued on Reverse Side
14. The heaviest weight pushed/pulled weighs ___________. The object's name is _______________ and it was pushed/pulled a distance of ___________ and at a frequency of ___________.

15. Physical Activity required

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<th>Frequency Per Hr.</th>
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<th>3-4</th>
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16. Working Environment:

17. Job can be modified: temporarily yes____ no____ permanently yes____ no____

If yes, specify:

18. Comments:

Completed by ___________________________ Completed with________________________

Signature ___________________________ Name of Employee Representative ___________________________

Title ___________________________ Title ___________________________

Employee comments/corrections

I have reviewed this job analysis and agree with its content except for comments/corrections as noted above.

______________________________ _______________________
Employee Signature Date