

Worker Fatigue is Costly

There Are Many Reasons For Fatigue And Contractors Should be on the Lookout For the First Signs of Lagging Productivity

By Joseph Arkin, M.B.A.

Dr. John L. Bulette, a practicing psychiatrist and teacher at the Medical College of Pennsylvania, writing in *U.S. News & World Report*, says that fatigue leading to absenteeism and poor productivity is a major problem of American industry. Some initial medical research on chronic fatigue took place in construction situations and it is his opinion that there is a lot contractors can do to prevent this.

"The major issue is how satisfied people are in their work and how much their essential well-being is enhanced by their job," he says. "I think that whenever people are working in conflict, there is fatigue. If

employees feel they are being exploited, demeaned or treated badly in other ways, they will have very strong feelings about it. They have to deal with these feelings, usually anger, and one of the ways—though not a helpful one—is chronic fatigue."

Worker fatigue is a subtle, often hidden form of waste, allowing a contracting business to continue to lose dollars for years without even a hint of awareness.

Knowing that a worker can reach a point at which boredom or loss of energy can cause a substantial drop in productivity is essential if solutions are to be found.

The often maligned morning and

afternoon "coffee-breaks" do take away valuable time from productive work. But, if attention span and/or emotional fatigue is taking its toll in levels of performance, then the 15-20 minute breaks are a valuable tool when they "recharge" employees and get them back on the job with a physiological recovery.

Studies have shown that people have energy reserves. When extended work, not necessarily strenuous, saps that reserve, there must be replenishment.

Therefore if we know the problem, we have to find a solution in planning. The goal becomes one of providing the right "mix" of work time in rela-

FIGURE 1—Typical work curve for a motor-skill task.

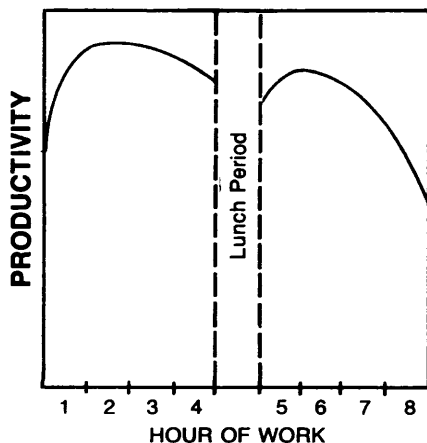


FIGURE 2—Typical work curve for a motor-skill task with rest pauses.

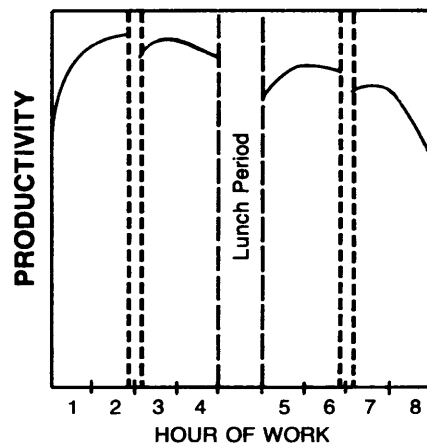
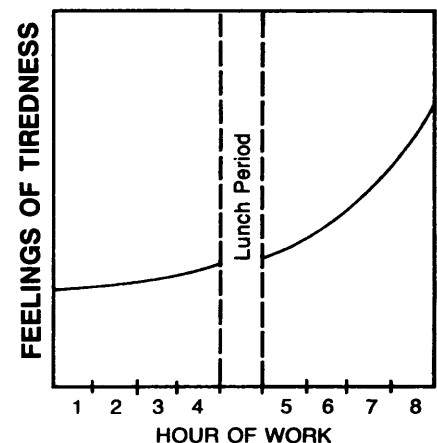


FIGURE 3—Feelings of tiredness for typical motor-skill and clerical tasks.



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tion to expenditure of energy.

Obviously, the characteristics of most construction jobs preclude a large number of short pauses. Taking such breaks would actually change the routine of the work. For example, for a person carrying a heavy load of gypsum board over a relatively long distance to take a large number of rest pauses, he would have to lower and raise the load each time that he rested. The job would be very different from raising the load once, carrying it the required distance and setting it down once. The frequent lifting and setting down would require a large amount

of additional energy;. The only practical solution is to minimize the number of unnecessary handlings of the load by making fewer rest pauses of a longer duration.

There are several precautions which should be observed in applying these principles to your own business. The limit of energy expenditure is not the same for all people, and together conditions such as heat, humidity, and type of body movement affect the capacity limit . . . and company production rates. Employees doing heavy work will find ways to take the rest pauses they need and conceal the fact

from you. Such a situation is harmful to both the worker and to your business. By going through the motions of working, the employee will have to spend more time recovering than if he stopped completely and rested. Also, the proper use of rest periods in heavy work will result in increased productivity even though the number of actual working hours may be reduced.

The aforementioned does not apply only to those performing manual labor—serving, taping, packing, loading, unloading, etc. It applies too, to those in the office bogged down in menial tasks such as filing, typing, using computers or other bookkeeping machines. This type of personnel, while not expending the same amount of energy, nevertheless reaches a point of saturation, and if not given some rest will reach a monotonous syndrome wherein the work efficiency and productivity will suffer.

Work output varies at different times throughout the day. These variations may be thought of as a “work curve.” The daily work curves for many activities have similar shapes.

After a worker starts in the morning there is a tendency for increased productivity. He starts out cold and warms up to the task. This warm-up period is part physiological and part psychological. It takes time to focus one’s thoughts away from other things (what happened the night before, what is planned for that evening) and plunge into work. As the worker becomes more absorbed in his work, an increase in productivity results. There is a similar warm-up period following the lunch break.

The initial warm-up is followed by a period of high productivity. But as the work continues, the performance will begin to fall off and will continue decreasing to the end of the work period. This will be an irregular pat-

tern as the worker will alternately speed up and down.

Studies reveal that the morning and afternoon work curves for most activities have the same general shapes. There are more important differences, however: (1) The morning's maximum productivity is usually higher than that reached in the afternoon. (2) The afternoon warm-up period starts at a higher performance level than the worker's initial efforts in the morning. (3) The impairment in productivity is more marked in the afternoon than in the morning. (4) The downtrend frequently begins earlier and the productivity usually falls to a much lower level by the end of the afternoon.

There is a direct correlation in downward trend of time worked. This is generally attributed to muscular fatigue. However, this doesn't always tell the whole story. Is it muscular fatigue or mental fatigue?

Often it is found that work pauses are the most practical and effective approach. But—control of noise and distractions, appropriate tools, better lighting, air conditioning, etc., are other factors. Many contractors are limited as to what can be done in this respect. They must remain competitive and must use simple or low-cost techniques—plus the restrictions,

often of a labor agreement.

A typical work curve shows that most motor-skill tasks require only two official work-breaks per day to maintain high-level performance. Some activities have natural breaks. Many of them only require intermittent attention of the worker. For an eight-hour day, work-breaks usually should be placed between the second

and third hours in the morning and the sixth and seventh hours in the afternoon.

A limited number of activities such as estimating or accounting require a high degree of concentration. For these, two work-breaks per day may not be adequate to maintain an acceptable level of performance. Again, observation will show tell-tale signs whether or not a third break is needed.

The term "fatigue" is also commonly applied to a feeling of tiredness which develops after *continuous* activity. Daily variations in "feeling tired" have been examined for different occupational groups. While the results are not the same for all types of work, common motor-skill and clerical tasks tend to have "feeling curves" with a degree of similarity.

People doing jobs well below body capacity often exhibit sharp increases in feelings of tiredness as the work continues. Some attribute this to the worker being frustrated, bored, just not caring. A good example would be

the worker whose talents, education and special training is not really being put to use—under utilization.

Workers can feel "tired" without really exerting themselves; they can put in a full day's work and more if the work is stimulating and varied; they can sometimes awaken from a full night's sleep feeling tired and listless; and when called upon, such as in emergencies, they can draw upon an endless reservoir of strength.

Because people think about themselves and their work, it is important to recognize the various factors. In combatting the negative factors it is necessary to concentrate on providing a change of pace through correctly spaced rest period designed to reduce monotony and boredom. And, each person has to find something special to do other than eat during a work-break. Furnishing a game room, reading material, or allowing employees to take a short walk is advisable.

Studies have verified that lost time will be made up by an overall increase in productivity if a proper amount of

rest time is permitted. Don't give breaks and soon the worker will find ways to take time off—frequent visits to the restrooms, shuffling papers, unnecessary repairs or adjustments to equipment. So, take a careful look at how your employees work and how they rest. Worker fatigue may be costing you more money than you think.