Call Center Ergonomic Assessment
HF 312
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Pre-Assessment

In order to conduct an Ergonomics Assessment on Embry-Riddle Aeronautical University Daytona Beach Campus’s International Admissions Office; a pre-assessment, an assessment, the creation of a solution, the implementation of that solution, and the evaluation and monitoring of results had to be performed. The goal of this overall assessment is to maximize efficiency through the implementation of ergonomics in the worksite. This will be accomplished by creating a solution of the current design problems and then through the implementation.

In the initial pre-assessment of the workstation, several guidelines were followed. A naturalistic observation of the overall workstation was performed immediately upon entering the workstation without employee notification. The workstation design was viewed during a routine work day without the knowledge of the workers. After which, a discussion with the manager was carried along with note-taking. A thorough discussion period was then carried out with the workers. During which several questions about the overall workstation, time spent performing their job, any pain or discomfort associated, and system designs were asked. Our ergonomics committee consisted of the employees whom had partaken in the pre-assessment, as well as our team.

The discussion was then followed by a hands-on evaluation of the workstation. The workers were then informed of our intent and several questions were asked. In the initial pre-assessment of the work station, it was found that there were a total of 8 stations; all of which were not assigned to specific users. The pre-assessment revealed all of the issues in the workstation. Since this workstation is an office, Office Ergonomics was used to observe several trends of computer/office workstation-related complaints, most of which are induced by poor work habits, poor workstation design, highly repetitive keyboarding and extensive use of the mouse.
Office Ergonomics also accounts for proper posture and comfort, whether sitting at a desk or standing behind a counter. Therefore, the purpose of our pre-assessment became to gather symptoms and complaints about the workstation all of which were associated with the repetitive work which is found in offices: eyestrain, back pain, neck pain, wrist and hand pain, and shoulder pain, elbow pain, knee discomfort, hip and low back pain. In the pre-assessment, the following issues of the workstation were thought of as the most critical: inadequate lighting, inadequate space, the workstation chair, the work surface desk, and the wiring around the workstation. Inadequate lighting and keyboard and mouse locations were focused by Nicole Andrade, the workstation chair was focused by Juan Moya, the monitor solution was handled by Antoinette Juhel, the work the repositioning of the numerical references and wireless headsets were handled by Julian Archer, and desk space and wiring were handled by Woodrow Peatt.

Surveying the employees during our pre-assessment was one of the most important tools used to acquire the most information. The employees complained about their unsafe workplace: such as the ability to trip over wires and employee personal items, and the potential to spill liquids on electronics that could result in electrocution. Other causes of unsafe or unhealthy workplace do not apply to our workstation. The student employees provided us with several changes they would make at the workplace for working healthier, happier, and more productive. See appendix C. This information, along with a digital camera, notepad and pen, and the ergonomic assessment guideline and survey provided us with information needed to conduct the assessment of the workspace.
Assessments

To accurately assess the call center, an ergonomic questionnaire was used. The questionnaire was tailored to the situation to get accurate results (See Appendix A). To further comprehend the users’ issues and problems we performed a battery of anthropometric measurements and compared them to the users’ workstations (See Appendix B). The main measurements we took were: thumb tip reach to determine if the user could reach things placed at the very end of the desk, popliteal height and compared it with the knee height to know if the chairs were too high or too low, and eye height to compare to the height of the computer monitor to assess the visual angle (the visual angle will be further discussed in the following section).

Through our assessment we were able to find many different solutions to our problems. However like most businesses the call center has a very limited budget. Because of this we presented them with multiple solutions (perfect and cost effective) to each problem so they could determine the most feasible and cost effective solution for themselves. We kept in mind trying to use other resources throughout the school to further save the call center money. We also tried to find the easiest solutions so they could implement them themselves and not have to hire an outside company to install anything.

Monitor Perfect Solution:

To take full advantage of the available space a monitor equipped with a swivel arm as a stand should be installed in all of the desks. This product has an average cost of $150.00 plus installation of such a device requires users to vacate their desk of all of their belonging. Hence this solution has high financial cost and a high stress cost to implement. See the picture bellow:
Monitor Feasible Solution:

Our solution that could be implemented with minimal cost is a computer monitor swap with another type of monitor present on-campus. The other monitor type has a more minimal design and allows the user to adjust the screen height. This would then allow the users at the call centers to fit their monitor under their desk shelf. Because this type of monitor is already present on-campus in places where its adjustable height functionality is not required the cost financial cost of such a product should be minimal. This type changes requires minimal effort from to user to get used to, hence the stress cost is minimal as well.

Current monitor:                                   Height adjustable monitor:
Chair Design

One of the most important problems in the workstation to account for was the office chairs. These rolling-chairs were not only ergonomically unfriendly with the users but they also interfered with other functions of the employee. The chairs were unable to perform a free movement, did not conform to the user’s natural body position, and interfered with other tasks due to several constraints. By using the Ergonomics tool of Postural Analysis, the employee’s posture in the sitting position was analyzed. Both a neutral working position and an awkward position were analyzed as well as the natural working positions as provided by the workstation design. Then a defined working position was drawn and reviewed. With the chair redesign and work surface redesign, a posture optimization can be completed in the overall workstation design. Another ergonomic tool that was used to assess the workstation was the Rapid Upper Limb Assessment (RULA). This is specifically a postural targeting method that estimates all of the risks involved with work-related upper limb strain. The results of the RULA assessment was a rating of 4 (on a scale of 1-7) in an action level of 2. This is a decently high classification which prompts that changes are required to lower this strain on the upper limb. This assessment allows for a quick view of the postures of the neck, trunk, and all other upper body limbs which are strained in work. The level notifies us that an intervention is required to reduce the strain in the upper body and lower the risks of injury due to loading on the operator (Strickland).

The assessment that was completed on the workstation chairs focused around the free movement of the chairs. This is because the user needs to constantly shift around the workplace, perform tasks and duties outside the workstation. Both the carpeting and the proximity between the workstations appeared to be severely constraining the movement of the chairs. Not only was this accounted for, but the headset wires at the workstations seemed to be interfering with the
movement of the chair, the wires get wrapped around the wheels. This problem can be easily fixed by purchasing a wire organizer. It was assessed then that in order to solve this problem, the workstations would need to be spaced out. Even though the carpeting was constraining the movement of the wheels on the chair, it was assessed that it would not entirely be a severe constraint.

Several preventive measures for the workstation posture problem were to: always assume a proper sitting neutral posture while working. The redesign of this initial problem calls for the uses of an adjustable chair both built-in foot- and an armrest to insure not only the lower back but also thigh and feet support (UMD). In order to assure a better chair design, materials under the workstation need to be moved in order to provide comfortable legroom. Finally, in order for this redesign to function correctly, workers must take frequent small breaks to not cause any posture-related pain and to avoid bodily injuries. Since sitting down accounts for the working position, most of the work-related problems would arise from chair use. Therefore, an ergonomically-centered chair design that allows for the free movement of the employee needs to be implemented. This chair would allow for maximum comfort to all of the bodily strain spots and convenience. As the user interacts with the chairs, the chairs goal is to place the workplace to the worker not the opposite. Since sitting exerts stress on the back because of the weight of the upper body to the buttocks and thighs, sitting for long periods increases strain on the vertebrae, lower extremities, and blood flow. Thus, an ergonomically redesign chairs will relieve the employee of all of these symptoms. The current chair does not contour with the body mechanics. According to our pre-assessment, the current chair was producing discomfort on the back, neck, eyes, abdominal region, leg, and movement. Thus, with proper posture and the implementation
of an ergonomic chair will discontinue the strain due to sitting and will result in improved productivity.

**Numerical References**

While on the job, employees are required to have access to multiple numerical references. However, these references are not in an ergonomically appropriate position. The resulting awkwardness could result in undue stress and fatigue overtime as the employees constantly improvise and work around the issue to be able to access all of the references when required. Additionally, employees have to multitask on the phone (hold the phone in one hand) and search for numerical references to give to the individual on the phone. According to an employee, their situation is frustrating and time consuming, and it should be fixed as soon as possible.

The assessment was conducted with one of the student employees. Their overall job was to answer calls from parents and perspective students who have questions about Embry-Riddle Aeronautical University. More specifically, this portion of the assessment focused on the sub task of viewing and retrieving multiple numerical references while communicating with the individual on the phone.

Upon conducting an entrance interview with the student employee, it was clear that the problem with obtaining the numerical references is its current positioning and the need for them to also multitask with the phone when retrieving the numerical reference. Currently, the numerical reference codes are not within the employees’ ideal field of view. When asked what he would do to make the workplace (specifically, the interaction with the numerical references) better and more productive, the student employee said that he would move the numerical references to a different and more easily accessible location. In fact, the employee made a comparison to another workstation that had a similar set up, however all the numerical references
were laid out on a wall, which the employee could have easily turned their chair while sitting and observed.

During the visual walkthrough, it was observed that there was limited space to place the numerical references at each employee’s workstation. The only available spaces for placing the numerical references were the side of the partition wall (between each workstation) and the back wall of the workstation (see Figure 1). With the numerical references on the side of the partition wall, employees have to slide back in their chair diagonally and turn their head roughly 35 degrees to the left to have a clear view of them. With the numerical references on the back wall of the workstation, the employees have to bend forward in their chairs to view the numerical characters, which would otherwise put strain on their eyes if they tried viewing them from a normal seated position. The bending causes strain on the back (more particularly the spine). It was then deduced by the evaluator that overtime this repetitive motion will lead to severe back pain and other health issues. Recall that the employees are normally speaking on the phone when they are required to retrieve the different numerical references. As a result, the employees are normally wearing headsets like the ones seen in Figure 1 (see within yellow outline). This means that the employees are moving back and forth with corded headsets that constantly fall off their heads as the wire latches on to objects or they move too quickly.
All of these poor ergonomic layouts and design lead to an increase in the worker’s task load, which in turn results in increased workload that can lead to muscle fatigue or stress over time that can become a liability for the employer, as the employee might be able to sue.

One approach to the numerical references is to laminate the various papers that they are printed on and lay them out on the workstation surface where the employees would normally rest their things (see Figure 2 direction of red arrow). Another approach would be to move the keyboard to the top on the surface of the workstation and then use the keyboard tray to lay out the numerical references (see Figure 2 direction of yellow arrows). By using any one of these approaches, the employees wouldn’t have to constantly raise and bend their back, strain their eyes, or turn their necks as they are trying to get a clear visual on the numerical references.

**Headsets**

One of the main tasks the students have while working at their desks is to take calls from parents and perspective students who have questions about the school, financial aid, and just about anything else available. Because of this, student employees may find that more times than not they are struggling to be able to keep the earphones attached to their head. This is because the cable jack for the earphones is located low to the floor in the side of the computer. Most all headphone cables are not designed to meet such length specifications. To fix this Embry Riddle
Aeronautical University invested in extremely long expandable cables which easily meet the length needed by the students. However, this creates a new problem of having the wires get tangled up in the rollers of the office chairs. Also students walking around have a tendency to trip over them ripping the cables out of the computers and making a safety hazard. After interviewing many of the students our group was told that a system to have more correct lengths of earphones would be necessary.

The computers are located very low to the ground. This creates a very awkward position to plug earphones into. During the assessment, many of the employees complained about this specific issue and the problems they encounter. We have discovered in other places around the school, for instance in Lehman Building room 373, the computers while low to the ground are on some sort of bench which raises them a few inches off the ground. Our group decided to use a solution very similar to this. We would construct out of wood a platform which the computer could sit up. It would lift the computer approximately one foot off the ground which would make the cable a much better length for the students to use. It would also give the students the ability to move around in the chairs a bit while still on the phone. By raising the computers a foot off the ground we would also be creating a bit of storage space under the computers. It was discussed how storage space was at a minimum so this was received very well. Since each of these platforms would be constructed by hand they could also be designed independently of each other. This means that each one could be built to serve a certain function or a certain person’s needs.
Cable Management

Another issue that was brought up to us during our initial evaluation was desk space. One of the biggest hassles that are taking up a good deal of work space are the wires from computers, desk lamps, and other electronics.

Upon further review it was clear that wires were taking up a lot of the already limited desk space. Not only were they on top of the desk going in every direction but they were also spread out along the back wall. These wires would get caught in the student’s feet and were a nuisance. On occasion the wires would even get yanked out of the plugs or out of the back of the computer from someone’s feet accidentally pulling on them. It was clear that a more organized way to keep the wires together was a must.

The cheapest and easiest solution which our group found was a device called the “cable eater.” This device is a split circular piece of plastic which wires can be wedged inside. It can hold many wires and will essentially clamp the wires. Instead of having 5 or 6 wires exposed, they will all be placed inside one larger tube which can be bent and moved around to keep it out of the way. Another advantage of this is that the “cable eater” is very inexpensive.

Lighting

Student employees work about four hours a day staring at a computer monitor. The overhead lighting, although is parallel to the line of sight, is very bright which makes the computer screens difficult to see. Because of this, the school implemented three overhead lightings that have flat lens plastic covers to try and reduce the amount of light in the room. However, stress on the eyes persists.” Eyes will adjust naturally to the brightest light in their range of vision. If the surrounding light levels are stronger than the computer monitor, the eyes will work harder to focus on the monitor (MSU).” The call center implemented small reading lights on each desk; however, the lights kept falling and took up too much room. Possible
solutions to relieve eyes stress are: new lighting, remove light bulbs, new rewiring, and glare screen protectors.

In the writing lab they do not use overhead lighting. Instead, there are standing lamps with three reading lights attached. This allows for a dimmer light setting in the room to reduce eye stress due to reading computer screens and papers. By implementing this simple solution, employees would be able to see the screen without causing so much eye stress. Another solution is to remove a light bulb from the overhead lighting. This solution is both quick and cheap and will allow for reduction in light. A different solution is to rewire the lighting in the room and purchase a light switch that adjusts the overhead lighting to the desired brightness. The final solution suggestion is to purchase a glare screen protector. This contraption can be placed over the screen to prevent excess light from hitting the screen.

**Keyboard and Mouse**

Sitting at a computer all day requires the user to constantly type and move the cursor to its target. This repeated action, in addition to the keyboard and mouse not being in an appropriate location and could cause carpal tunnel in the future. According to the Institute of neurological disorders and stroke, “carpal tunnel syndrome occurs when the median nerve, which runs from the forearm into the hand, becomes pressed or squeezed at the wrist.” When we assessed the workstations, the keyboard and mouse were placed on a lowered tray, this does not allow for the users to properly move and bend his or her wrists. “The user's elbow angle (the angle between the inner surface of the upper arm and the forearm) [needs to be] at or greater than 90 degrees to avoid nerve compression at the elbow.” Thus, the keyboard and mouse should be placed on top of the desk instead of on the tray. “An ideal mouse arrangement is for this to be on a flat surface that's 1-2” above the keyboard and moveable over the numeric keypad.” The keyboard should be
in the center to reduce the amount of movement from the user. In our implementation we suggested moving the monitor back to specially make room for the keyboard and mouse and to decrease eye stress from the monitor.

**Implement Solution (Hypothetical)**

Once all of our solutions were created we were left with a couple different alternatives for some of the design problems: lighting and headsets. Hence, we went to the users and presented them with all of our propositions. For each different one we explained why we thought the change was necessary and how our solution addressed that specific problem. Once the users were briefed on the possible solutions we asked them if they any more ideas or suggestions. They mostly had a couple of fine-tuning adjustments based on their personal preference. Because of the financial resources of the call center the least costly solutions were the ones that they preferred. The solution they chose for lighting and headsets were the following. The best lightning option that we agreed on was to get a couple of floor lamps that would provide enough lighting and a soft glow to minimize headaches. For the phone headsets they decided to go that the cordless option because of the constant amount of daily stress and grief caused by constant cable tangling and causing object to fall off the desk. Once we knew exactly what design we were going to implement we gave them a demo of sorts on how their new workplace would look like. This is where we were faced with somewhat of a problem. Because the call center doesn’t have assigned desks and employs quiet a lot of student workers, we could not achieve a consensus on what to change and what not to change. It is worth noting as well that in between our assessment and when we presented our results some student workers were not working there anymore and were replaced by new ones. All of this made any kind of implementation borderline impossible. Hypothetically speaking, if we would had implemented our solution we would have
trained the users on how to use the height adjustable screen and how to use the keyboard tray as a phone number shortcut tool.

Implementation of the ergonomic solution would be simple. To address the phone issue, the employer will order eight Plantronics CS 50 Wireless Office Headset Systems (see Figure 3). There will be one headset system for each workstation. As far as relocating the numerical references to the top surface of the workstation, or replacing the keyboard to the top surface of the workstation and putting the numerical references in the keyboard slide tray, this would be a simple switch. The time required for the whole implementation process will be short (at most, the time it takes for the headset orders to arrive). Once the personal wood platform is implemented all that must be done is place the computers inside of the platform, and then the earphones would be plugged in. The only education and training that would be required is to teach the employees how to operate the new wireless headsets, and the height adjustable computer screens. Apart from that, changes and additions made to the workstation aren’t complex that it would cause the employee operations to drastically change (their functions and the way they carry out those functions remain fairly the same).
Final Recommendation

Front View
Monitor and Evaluate Results

In order to complete our Ergonomics Assessment on ERAU’s calling center office, a monitoring and evaluation of the results is required in order to assess the workplace to see whether the changes that were implemented were positive or negative. A post assessment survey would be administered to the employees in order to get their feedback. The survey entails the complete effectiveness of the assessment’s solutions and overall success that training yielded.
Our group monitored our design implementations and evaluated results, based on overall employee feedback on our redesign. Managerial feedback would also provide a way to evaluate the results. A questionnaire issued to the employees would aid in our efforts to determine whether our results provided a positive reflection of our purpose. It was gathered from all of the feedback that our proposed implementation of our redesign would be positive in all aspects to the worker’s happiness, safety and efficiency.

Appendix

Appendix A

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**ERGONOMIC QUESTIONNAIRE**

Name: __________________ Date: ___________ Phone: ______________

Job Title: __________________ Job Address: ______________________

Gender: ___ M ___ F Height: _______ Weight: ______________

**Work Environment and Symptoms**

Daily work duties:

______________________________

Work-related activities that aggravate your condition:

______________________________
Medical Information

Have you seen a physician for this problem? ______ Yes ______ No
______ Personal Physician ______ Worker’s compensation Physician ______ Not Applicable
What was the diagnosis? ___________________________________________

What tests, if any, were conducted to confirm the diagnosis?
______________________________________________________________

Which treatments, if any, has your doctor prescribed?

- Anti-Inflammatory drugs
- Surgery
- Ice/heat
- Splint(s) Currently used? ______ Y ______ N
- Physical Therapy
- Chiropractic care
- Steroid Injection
- Rest (Describe) ______________________________________

The medical conditions listed below may predispose individuals to repetitive strain injury. If you have any of the listed conditions and are comfortable disclosing them, please do so.

______ Rheumatoid Arthritis ______ Overweight ______ Birth control/hormonal drugs
______ Diabetes mellitus ______ Hypothyroidism ______ Smoking
Pregnancy ______ Myalgia ______ Lupus

Personal Information

List any hobbies or activities done on a regular basis outside of work, e.g., sewing, bowling, bicycling, knitting, motorcycling, computer games, etc...

________________________________________________________________

To the best of my knowledge, the above information is accurate and complete.

Signed: __________________________________________ Date: ________________
Appendix C

1. Prevent computers from restarting, this is a problem that happens daily and causes problems.
2. Assign workstations to users and organize wires
3. Assign better work schedules during peak time days and hours of operation
4. Fix the problem with space restriction between workstations, and computer hardware.
5. Fix chair anthropometric problem
6. Allow for a more efficient way of the acquisition of visual information
7. Fix the lighting problem in the workspace
8. Focus on the phones and audio information
9. Work on a system for other tasks such as mail, records, printer, fax, etc.
# Evaluation Checklist

## WORKING POSTURES

- **1. Head and neck** to be upright, or in-line with the torso (not bent down/back). If "no" refer to Monitors, Chairs and Work Surfaces.
- **2. Head, neck, and trunk** to face forward (not twisted). If "no" refer to Monitors or Chairs.
- **3. Trunk** to be perpendicular to floor (may lean back into backrest but not forward). If "no" refer to Chairs or Monitors.
- **4. Shoulders and upper arms** to be in-line with the torso, generally about perpendicular to the floor and relaxed (not elevated or stretched forward). If "no" refer to Chairs.
- **5. Upper arms and elbows** to be close to the body (not extended outward). If "no" refer to Chairs, Work Surfaces, Keyboards, and Pointers.
- **6. Forearms, wrists, and hands** to be straight and in-line (forearm at about 90 degrees to the upper arm). If "no" refer to Chairs, Keyboards, Pointers.
- **7. Wrist** and **hands** to be straight (not bent up/down or sideways toward the little finger). If "no" refer to Keyboards, or Pointers.
- **8. Thighs** to be parallel to the floor and the **lower legs** to be perpendicular to floor (thighs may be slightly elevated above knees). If "no" refer to Chairs or Work Surfaces.
- **9. Feet** rest flat on the floor or are supported by a stable footrest. If "no" refer to Chairs, Work Surfaces.

## SEATING

- **10. Backrest** provides support for your lower back (lumbar area).
- **11. Seat width and depth** accommodate the specific user (seat pan not too big/small).
- **12. Seat front** does not press against the back of your knees and lower legs (seat pan not too long).
- **13. Seat** has cushioning and is rounded with a "waterfall" front (no sharp edge).
- **14. Armrests**, if used, support both forearms while you perform computer tasks and they do not interfere with movement.

"No" answers to any of these questions should prompt a review of Chairs.

## Notes:
KEYBOARD/INPUT DEVICE—Consider these points when evaluating the keyboard or pointing device. The keyboard/input device is designed or arranged for doing computer tasks so the

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Keyboard/input device platform(s) is stable and large enough to hold a keyboard and an input device.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Input device (mouse or trackball) is located right next to your keyboard so it can be operated without reaching.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Input device is easy to activate and the shape/size fits your hand (not too big/small).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Wrist(s) and hand(s) do not rest on sharp or hard edges.</td>
<td></td>
<td></td>
</tr>
</tbody>
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"No" answers to any of these questions should prompt a review of Keyboards, Pointers, or Wrist Rests.

Notes:

MONITOR—Consider these points when evaluating the monitor. The monitor is designed or arranged for computer tasks so the

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. Top of the screen is at or below eye level so you can read it without bending your head or neck down/backward.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. User with bifocals/trifocals can read the screen without bending the head or neck backward.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Monitor distance allows you to read the screen without leaning your head, neck or trunk forward/backward.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Monitor position is directly in front of you so you don’t have to twist your head or neck.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Glare (for example, from windows, lights) is not reflected on your screen which can cause you to assume an awkward posture to clearly see information on your screen.</td>
<td></td>
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"No" answers to any of these questions should prompt a review of Monitors or Workstation Environment.

Notes:

WORK AREA—Consider these points when evaluating the desk and workstation. The work area is designed or arranged for doing computer tasks so the

<table>
<thead>
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<th></th>
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<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>24. Thighs have sufficient clearance space between the top of the thighs and your computer table/keyboard platform (thighs are not trapped).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Legs and feet have sufficient clearance space under the work surface so you are able to get close enough to the keyboard/input device.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### ACCESSORIES—Check to see if the

<table>
<thead>
<tr>
<th>Item</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>26. Document holder, if provided, is stable and large enough to hold documents.</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>27. Document holder, if provided, is placed at about the same height and distance as the monitor screen so there is little head movement, or need to re-focus, when you look from the document to the screen.</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>28. Wrist/palm rest, if provided, is padded and free of sharp or square edges that push on your wrists.</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>29. Wrist/palm rest, if provided, allows you to keep your forearms, wrists, and hands straight and in-line when using the keyboard/input device.</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>30. Telephone can be used with your head upright (not bent) and your shoulders relaxed (not elevated) if you do computer tasks at the same time.</td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>

"No" answers to any of these questions should prompt a review of Work Surfaces, Document Holders, Wrist Rests or Telephones.

**Notes:**

### GENERAL

<table>
<thead>
<tr>
<th>Item</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>31. Workstation and equipment have sufficient adjustability so you are in a safe working posture and can make occasional changes in posture while performing computer tasks.</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>32. Computer workstation, components and accessories are maintained in serviceable condition and function properly.</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>33. Computer tasks are organized in a way that allows you to vary tasks with other work activities, or to take micro-breaks or recovery pauses while at the computer workstation.</td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>

"No" answers to any of these questions should prompt a review of Chairs, Work Surfaces, or Work Processes.

**Notes:**
# Ergonomic Assessment Report

<table>
<thead>
<tr>
<th>Measuree Name:</th>
<th>Ergonomist Name: Juan Moya</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone:</td>
<td>813-400-0679</td>
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<tr>
<td>Email:</td>
<td></td>
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<tr>
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<td>940 Village Trail, Apt 5-108, Port Orange, FL 32127</td>
</tr>
</tbody>
</table>

## Positive Aspects:
- Direct lighting on all work-stations
- Supplies cabinet in room
- Workstation telephones
- Good supervisor to employee communication capabilities
- Printer near workstations
- Supervisor can supervise from a near room.

## Risk Factors:
- Desk is too low when compared to natural line of vision (strain)
- A lot of bending of the upper back due to seat-desk configuration
- Possible carpel tunnel with current mouse configuration
- Cluttered workstations and too much ambient noise
Risk Modifications / Controls:

- Mouse restriction → change location of mouse or acquire a smaller keyboard or mouse
- Desk too low → acquire shorter chairs to improve natural line of vision in workstations.
- Cluttered workstations → remove desk dividers to increase room at workstations and reduce clutter.

Additional Suggestions:

- Acquire headset holder
- Acquire cord organizer
- Acquire noise-canceling headsets to reduce ambient noise
- Convert records to digital version
- Organize supply cabinet + area
- Work around busiest days + times with scheduling
- If a caller calls for something that isn't admission
  - transfer
References


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