OUTLINE OF MAJOR PROGRAM POINTS

The following outline summarizes the major points of information presented in the program. The outline can be used to review the program before conducting a classroom session, as well as in preparing to lead a class discussion about the program.

- **Every week laboratory employees perform hundreds of different tasks:**
  - — At different workstations.
  - — Using different instruments/materials.
  - — Employing different movements.

- **Each task makes a distinct set of demands on the body.**
  - — Some tasks can lead to unhealthy strain/stress.

- **Ergonomics helps us look at these demands, examining:**
  - — Our job.
  - — Our work areas.
  - — The instruments and tools that we use.

- **Ergonomics shows us how we can work most effectively and safely based on our own physical makeup, such as our:**
  - — Height.
  - — Leg size.
  - — Arm size.

- **People's physical size and shape are important considerations when designing work areas and equipment.**
  - — To work efficiently and safely, we must minimize stress on the body.
  - — But often it is hard to design workstations and equipment that are perfect for everyone.
  - — Frequently equipment is designed to fit "most" people.

- **Your work area needs to be customized for you.**
  - How you do it is up to you and your supervisor.
  - It will determine how hard your muscles and joints work.

- **Instruments and materials should be arranged to minimize unhealthy movements.**
  - "Overstretching" is common.

- **Specific things to avoid include:**
  - Long sessions of repetitive motion.
  - Irregular/extreme positions.
  - Overly heavy loads.

- **Positive work techniques can help with these problems.**
  - Stretching exercises can relieve muscle tension.
  - Keeping in "neutral" positions eliminates stressful or uncomfortable movements.

- **The "neutral" position for the wrist is a straight, "shake hands", position.**
  - This involves the least amount of stress.
  - It should be used whenever possible.
  - Other wrist positions can be harmful, especially when they are used over long periods of time.

- **The arms and shoulders also have a neutral position.**
  - Keep the upper arms to the sides of the body.
  - Have the forearms out at a 90° angle.

- **There are more opportunities to use neutral positions than you would think.**
  - Arranging workstation height correctly is the key.
  - You may need to raise or lower a chair.
  - If you are standing, you may need a small stool or platform.
  - Sometimes the work surface needs to be lowered.

- **Careful positioning of tools and materials is also important.**
  - — Keep them in front of your body (this encourages neutral movements).
  - — Never put supplies at extreme reaches.

- **Repeating the same movement many times can also cause problems.**
  - — Vary work patterns when possible.
  - — Take periodic "mini-breaks" to loosen tight muscles.

- **Don't use excessive force when performing a task.**
  - — Applying a lot of pressure can lead to an injury.
  - — Injuries can be especially harmful if you are not in a neutral position.

- **Much lab work is performed with gloves.**
  - — So having the right fit is essential.

- **Some gloves can be too large or too thick. This:**
  - — Forces you to grip objects too tightly.
  - — Can lead to painful swelling of the tendons.

- **Gloves can also be too tight/stiff at the wrist. This:**
  - — Can press on nerves, blood vessels and the "carpal tunnel".
  - — Often leads to serious injuries.

- **The back and neck are especially vulnerable areas.**
  - — Both should be considered when you are working in the lab.
  - — Stress to either can lead to painful problems.

- **The back can be weakened in a number of ways:**
  - — By improper lifting.
  - — Through a fall.
  - — By bad posture.

- **You should work to keep your back and neck in a neutral, straight position.**
  - Don't do any unnecessary bending or twisting.
  - If you start to strain, adjust your work space.
  - Getting materials closer to the body also helps.

- **Sitting is one of the most stressful positions for the back. The best positioning is to:**
  - Keep the lower back (lumbar region) comfortably supported by your chair.
  - Position your feet flat on the floor.
  - Keep your knees slightly higher than your hips.

- **You may need to make positioning adjustments from time to time, to reduce stress.**
  - For good lumbar support adjust your chair or use a pillow behind your back.
  - If your feet dangle, place them on a book or platform.

- **Lab stools often lack lumbar support, so you should:**
  - Shift your hips forward.
  - Use rails as footrests.
  - Take frequent "stretches" to loosen tight muscles.

- **Standing can be just as tiring to the back as to the feet and legs. For best ergonomics:**
  - Organize tools/materials so everything is in reach.
  - Avoid bending/stooping.
  - Periodically shift your weight from one foot to the other.
  - Use a footrest to keep one foot higher than the other.
  - Wear comfortable shoes with cushioned insoles.
  - Stand on cushioned, anti-fatigue mats (if they are available).

- **Proper lifting techniques are essential to the good health of your back and neck.**
  - Before lifting, examine the object for excess weight and balance.
  - Get close to the object.
  - Keep your back straight.
  - Bend slowly at the knees, not at the waist.
  - Get a good grip on the sides of the object.
  - Lift slowly with your legs (keep your back straight).
  - Balance the load on your chest.

- **There are also proper procedures for walking with an object.**
  - Keep the object close to your body.
  - Turn with your feet, don't twist your body.

- **To set an object down, reverse the process.**
  - Keep your back straight.
  - Bend with your knees.
  - Set the object down carefully.

- **If an object is too heavy or awkward to handle alone, don't risk injury... get help.**
  - Lift the object together with someone else.
  - Counting out loud can help coordinate your efforts.
  - If the load is still too heavy for you and a helper, get a cart, dolly or other equipment.

- **Exercise can also be helpful in avoiding ergonomic injuries.**
  - The body needs to stay conditioned to perform effectively.
  - Start the day off with warm-up stretching.
  - Do limbering exercises during breaks.
  - This will keep you comfortable throughout the day.

* * * SUMMARY * * *

- Remember, you can eliminate aches and pains by paying attention to your body mechanics and work environment.
- Rearrange the materials you work with.
- Raise or lower work surfaces.
- Practice good lifting habits.
- Get plenty of exercise.
- Practicing good ergonomics provides insurance against injury!