

Types and Applications of Assistive Technology for Hard of Hearing People

One to One Meetings – involves close communication

Meeting with supervisor

Meeting with co-worker or colleague on a project

Interview for a new job or another position in a department/division

Solutions:

- Use a personal listening system:
 - Wired personal devices such as direct audio input (DAI) or amplifier
 - Wireless systems such as FM, Infrared, or Loop
- Sign Language or oral interpreter or cued speech transliterator
- Computer-Assisted Notetaking (CAN) or Computer Assisted Real Time (CART)
- Use Communication Strategies: avoid light behind the speaker, keep hands away from face, minimize noise

Small Group Meetings – with many people sitting around a table

Staff Meetings

Committee Meetings

Solutions:

- Wired personal listening devices: direct audio input (DAI), amplifier
- Wireless personal listening systems: FM, Infrared, or Loop
 - Selection of microphones important to optimize signal-to-noise ratio
- Sign Language or oral interpreter or cued speech transliterator
- Computer-Assisted Notetaking (CAN) or Computer Assisted Real Time (CART)
- Communication Strategies: Ask one person to speak at a time and be sure to use microphone when talking
- Consider alternative layout of table set-up at meeting: Semi-circle or horseshoe arrangement instead of classroom style.

Large Group Meetings – large auditorium/hotel conference room/department meeting room with a large number of people in attendance

Conference meetings

Department/Division meetings

Solutions:

- Wireless personal or large room assistive listening systems: FM, Infrared, or Loop
- Consider use and placement of microphone(s) for audience questions
- Computer-Assisted Notetaking (CAN) or Computer Assisted Real Time (CART)
- Sign Language or oral interpreter or cued speech transliterator
- Communication Strategies: Consider prime seating space for people who need to see speaker's face or the interpreter
- Spotlight on speaker
- For Presentations: use visual tools, overhead transparencies, dry erase/blackboards
- Video Conferences: use CART

Walking and Talking (one to one) -- communicating down a hallway or walking to a meeting

Solutions:

- Wired personal listening devices: direct audio input (DAI) or amplifier (may be difficult to use if walking pace is not coordinated or leisurely)
- Wireless personal listening systems: FM
- Communication Strategies: Consider acoustics and possible interruptions from bumping into people or things, since the deaf or hard of hearing person may need to see your face to understand what you are saying. It may be better to wait and find a quieter area to communicate or to stop and talk.

Social Gatherings

Standing, Staff Celebrations, Lunch Meetings

Solutions:

- Wired personal listening devices: direct audio input (DAI) or amplifier
 - Directional microphone recommended for noisy situations
- Wireless personal listening systems: FM
- Sign Language or oral interpreter or cued speech transliterator
- Communication Strategies: Consider acoustics and conversation flow. May be too fast for hard of hearing or deaf person to catch up. Hard of hearing/deaf person may ask a co-worker to repeat or give a summary of what was said, or may talk one-to-one with a co-worker.

Training

An employee may want to attend a training or in-service seminar or give one.

Solutions:

- Wireless personal or large room assistive listening systems: FM, Infrared, or Loop
 - Consider use and placement of microphone for audience questions
- Computer-Assisted Notetaking (CAN) or Computer Assisted Real Time (CART)
- Sign Language or oral interpreter or cued speech transliterator
- Communication Strategies: Consider prime seating space for people who need to see speaker's face or the interpreter. Speaker may be asked to repeat questions from the audience.

Alerting to Environmental Sounds

Solutions: Audible, flashing, or vibrating signalers

- Phone ring: alerts personnel or receptionist of a phone call in a noisy environment
- Door bell/knock: alerts personnel or receptionist of a visitor to office
- Smoke alarm: ensures safety in case of fire/smoke
- Security alarm: ensures safety for after-hour workers or workers in secured areas
- Warning alerts/alarms on labor vehicles ensures safety for warehouse/supply workers in noisy environments

Telephone Communication

Note: Most adaptive telephone equipment is analog and may not be compatible with digital telephone systems used in many workplaces. Explore compatibility issues before attaching any external equipment to digital equipment.

Solutions

- Amplifiers (4 types: portable, in-line, handset and entirely new phone set)
- Binaural hearing (via audio output jack or adapter to phone line)
- TTYs (traditional and VCO). Also, consider computer modem/software packages to emulate TTY code.
- Relay services (Including Internet relay, Two Line Voice Carry Over, CapTel, Federal Information Relay Service)
- Ring alerts and processors (separate voice and TTY calls)
- Email and/or electronic conferences via computer
- Real time text telecommunication via computer ISP (for example, AOL Instant Messenger)
- Wireless pagers (especially email and/or TTY compatible)
- Fax machines
- Cell phones (interference and telecoil compatibility issues)
- Integrated devices (fax, TTY, Email)
- Videoconferencing
- Video relay interpreting/video remote interpreting (for sign language)
- Telco custom calling services: caller ID, distinctive ringing, page notification, call-waiting (with special new call waiting alerting equipment), voice mail

Driving

Discussion in car on the way to a meeting.

Solutions:

- Wired personal listening devices: direct audio input (DAI) or amplifier
- Wireless personal listening systems: FM or audio loop system installed in car
- Emergency Siren Alert
- Enhanced Signal Indicator
- Communication Strategies: Consider acoustics and need for hard of hearing or deaf person to face individual. May be better to wait to reach destination or stoplight to talk (for both hearing and hard of hearing/deaf drivers.)

Traveling – Business conducted away from office

Consider hotel and airplane accommodations

Solutions:

- Wired personal listening devices: direct audio input (DAI) or amplifier
- Wireless personal listening systems: FM
- Accommodations can be requested ahead of time at destination hotel. Accommodations could include a telephone amplifier, ring alert, smoke alarm, or door alerting device.

Computers

Effective way of communicating to ensure complete understanding of a previous meeting, help clarify details of a project or directive, and forward phone messages.

Solutions:

- Office Email, Internet Email, Instant messaging
- Intercom utilizing text for communication within the office

Public Address Announcements at Work

Solutions:

- Office Email/Electronic Monitor
- Route Hardcopy Memos of Announcements

Public Facilities

Museums, parks, lending offices

Solutions:

- List services on paper or visual display
- Use TTY set-up at ticket counter to communicate back and forth
- Wired or wireless listening systems at counter area: FM or Loop
- Tours: use Wireless personal listening systems: FM and/or provide Sign Language or oral interpreter or cued speech transliterator

Other Technologies

- Personal pagers – inexpensive and not associated with telephone network
- Vibrating watches – for timing meetings or presentations
- Amplified stethoscopes
- Speech recognition technologies
- Spotlights
- Hearing Assistance Dogs
- Paper and Pen/Pencil