

Fundamentals in Assistive Technology

Service Delivery



Issues in Service Delivery



Learning Outcomes

- Recognize ethical dilemmas that can arise when delivering AT services.
- Identify legislation that shapes services provided to adults and children.
- Identify AT funding sources



Fundamentals in Assistive Technology Service Delivery

Ethics

- Study of values and customs of a person or group
- Concepts of:
 - Right and wrong
 - Good and evil
 - Responsibility
- Not universally defined or agreed upon



RESNA Code of Ethics

- Hold paramount the welfare of persons served professionally
- Practice only in their area(s) of competence and maintain high standards



Fundamentals in Assistive Technology Service Delivery

RESNA Code of Ethics

- Engage in no conduct that constitutes a conflict of interest or that adversely reflects on the association and, more broadly, on professional practice
- Maintain the confidentiality of privileged information



RESNA Code of Ethics

- Seek deserved and reasonable remuneration for services
- Inform & educate the public on rehabilitation/assistive technology and its applications



Fundamentals in Assistive Technology

Service Delivery

RESNA Code of Ethics

- Issue public statements in an objective and truthful manner
- Comply with the laws and policies that guide professional practice



Ethical Dilemmas

- Recommendation for powered wheelchair in context of “Medical Necessity”
- Some devices may be used to do things a person is still able to do for themselves which may make their problems worse
- Devices that may restrict freedom or privacy



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Standards of Practice

The fundamental concepts and rules essential to promoting the highest ethical standard among individuals who evaluate, assess the need for, recommend, or provide assistive technology.



Information Resources

- The ability to readily obtain current information on assistive technology products and services.
- Being aware of possible interventions helps best meet client needs



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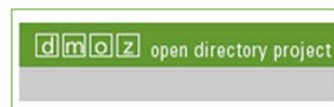
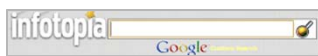
Information Resources

Ability to find:

- Commercially available devices
- Appropriate service providers
- Relevant research
- Emerging technologies
- Relevant policies and regulations
- Training opportunities



Information Resources-Internet (Academic and research)



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Information Resources-Internet (Assistive technology–specific)




Other Websites

- www.abledata.com
- www.assistivetech.net
- www.microsoft.com/enable
- www.apple.com/accessibility
- www.smarthome.com




Fundamentals in Assistive Technology Service Delivery


 **RESNA** Technology Society of North America


Information Resources

Conference and Trade Show

- Attendance and Proceedings
 - RESNA
 - CSUN
 - Closing the Gap
 - Medtrade
 - International Seating Symposium
 - ATIA
 - State “Tech Act” conferences








 **RESNA**
Rehabilitation Engineering and Assistive Technology Society of North America

Information Resources

Training and Inservice

- RESNA Instructional Courses
- EASI (Engineering Solutions)
- CSUN
- Assistive Technology Training Online Project (University of Buffalo)
- Assistive Technology Training Program (University of Pittsburg)

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Information Resources

Publications

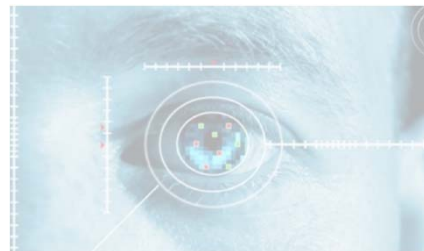
- Assistive Technology Journal (RESNA)
- Technology and Disability (IOS Press)
- Access World (AFB)
- Assistive Technology Outcomes and Benefits
- Journal of Special Education Technology



Information Resources

Tracking New and Emerging Technologies

- NASA Tech Briefs
- Technology Review (MIT)
- Popular Mechanics
- Converging Technologies for Improving Human Performance (NSF)
 - Nanotechnology
 - Biotechnology
 - Information technology
 - Cognitive science



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AT Related Legislation

- Americans with Disabilities Act (ADA)
- ADAAA of 2008
- Individuals with Disabilities Education Act (IDEA)
- Individuals with Disabilities Education Improvement Act (IDEIA)
- Assistive Technology Act (“Tech Act”)
- Workforce Investment Act-Rehabilitation Act (WIOA)



Americans with Disabilities Act

- Public Law 101-336
- Prohibits discrimination on the basis of disability in employment, state and local government, public accommodations, commercial facilities, transportation, and telecommunications.
- NOT an entitlement program



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Americans with Disabilities Act

Title I – Employment

- Requires employers with 15 or more employees to provide **“qualified individuals with disabilities”** an equal opportunity to benefit from the full range of employment-related opportunities available to others.
- Requires employers to provide **“reasonable accommodations”**
 - Exceptions
 - **“Undue Hardship”**
 - **“Direct Threat”**
- Enforcement by Department of Justice, Equal Employment Opportunity Commission (EEOC)



Americans with Disabilities Act

Title II – State and Local Government Activities

- Covers all activities of state and local governments regardless of the government entity's size or receipt of federal funding
- Requires that state and local governments give people with disabilities an equal opportunity to benefit from all of their programs, services, and activities
 - Examples: Public education, employment, transportation, recreation, health care, social services, courts, voting, and town meetings
- Enforcement by Department of Justice



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Americans with Disabilities Act

Title II – Public Transportation

- Covers public transportation services, such as city buses and public rail transit (e.g. subways, commuter rails, Amtrak)
- Public transportation authorities may not discriminate against people with disabilities in the provision of their services.
- Paratransit is a service where individuals who are unable to use the regular transit system independently (because of a physical or mental impairment) are picked up and dropped off at their destinations.
- Enforcement by Department of Transportation



Americans with Disabilities Act

Title III – Public Accommodations

- Covers businesses and nonprofit service providers that are public accommodations, privately operated entities that provide products and services to the public.
- Businesses must comply with basic nondiscrimination requirements that prohibit exclusion, segregation, and unequal treatment.
- Must comply with ADA architectural standards
- Make “**reasonable modifications**” in their policies, practices and procedures to avoid discrimination, unless they can demonstrate that a modification would fundamentally alter the nature of their service, program or activity
- Enforcement by Department of Justice
- Adopted amendment (ADAAA of 2008)



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Individuals with Disabilities Education Act

- Original Public Law 94-142 (1975)
- Public Law 108-446 Individuals with Disabilities with Disabilities Improvement Act of 2004 (IDEIA)
- Basic premise: All children have a right to a "**free and appropriate education**"
- "**Least restrictive environment**"
- Individual Education Plan (IEP)
- Individual Family Services Plan (IFSP) for birth to three years old
- IDEIA aligns IDEA with No Child Left Behind



Individuals with Disabilities Education Act



- Part A - General Provisions
- Part B - Assistance for Education of All Children with Disabilities
- Part C - Infants and Toddlers With Disabilities
- Part D - National Activities To Improve Education of Children With Disabilities
 - Personnel preparation, parent training, technical assistance, model demonstration projects and dissemination of information



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Assistive Technology Act - "Tech Act"

- Public Law 108-364 - 2004 Amendments to Assistive Technology Act of 1998
- First legally defined "**assistive technology device**" and "**assistive technology service**"
- To improve the provision of assistive technology to individuals with disabilities of all ages through comprehensive statewide programs of technology-related assistance.
- Maximize the ability of individuals with disabilities and their family members, guardians, advocates and authorized representatives to obtain assistive technology devices and assistive technology services



Assistive Technology Act - "Tech Act"

- Funds cannot be used for direct payment for an AT device for an individual with a disability
- Federal and state agencies are not authorized to reduce medical or other assistance or alter eligibility for a benefit or service under any federal law as a result of the Tech Act.
- Funds received through the grant are used to supplement, and not supplant, funds available from other sources for technology related assistance



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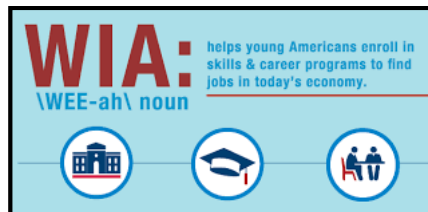
Assistive Technology Act - "Tech Act"

- State Level Activities
 - State finance systems (includes alternative finance programs)
 - Device reutilization programs
 - Device loan programs
 - Device demonstrations
- State Leadership Activities
 - Training and technical assistance
 - Public awareness and information and referral
 - Public advocacy
 - Coordination and collaboration



Workforce Investment Act

- Public Law 105-220 (1998)
- Title I - Workforce Investment Systems
- Title II - Adult Education and Literacy
- Title III - Workforce Investment-Related Activities
- Title IV - Rehabilitation Act Amendments of 1998
- Title V - General Provisions
- Establishes
 - Workforce Investment Boards
 - One-Stop Service Delivery



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The Workforce Innovation and Opportunity Act (WIOA)

- WIOA replaces the Workforce Investment Act of 1998
- Improves Services to Individuals with Disabilities
 - physical and programmatic accessibility to employment and training services
 - 15 percent of state VR funding to provide transition services to youth with disabilities
 - committee to advise Sec of Labor on strategies to increase competitive integrated employment
 - VR state grant programs will engage employers to improve participant employment outcomes



Rehabilitation Act

- Title I - Vocational Rehabilitation Services
- Title II - Research and Training
 - National Institute on Disability and Rehab Research
- Title III - Professional Development, Special Projects and Demonstrations
- Title IV - National Council on Disability
- Title V - Rights and Advocacy
- Title VI - Employment Opportunities for Individuals with Disabilities
- Title VII - Independent Living Services and Centers for Independent Living



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Rehabilitation Act



Title V - Rights and Advocacy

- Sec 501. Employment of Individuals with Disabilities
- Sec 502. Architectural and Transportation Barriers Compliance Board
- Sec 503. Employment Under Federal Contracts
- Sec 504. Nondiscrimination Under Federal Grants and Programs
- Sec 508. Electronic and Information Technology
- Sec 509. Protection and Advocacy of Individual Rights



Rehabilitation Act

Title VI - Employment Opportunities for Individuals with Disabilities

- Sec 601. Projects with Industry
- Sec 602. Supported Employment



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Other AT Related Legislation

- Fair Housing Act
- Hearing Aid Compatibility Act
- Television Decoder Circuitry Act
- Telecommunications Act
- Air Carrier Access Act
- Developmental Disabilities Assistance and Bill of Rights Act
- Older Americans Act



Common AT Funding Sources

- State Vocational Rehabilitation Agency
- Workers' Compensation
- Educational Systems (IDEA, IDEIA)
- Children's Rehabilitation or Medical Services
- Developmental Disabilities Programs
- Department of Veterans' Affairs
- Medicaid
- Medicare
- Social Security Disability
- Private Insurance



You've Got Funding!



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Vocational Rehabilitation: Eligibility Criteria

- An individual must be disabled and require VR services "to prepare for, secure, retain or regain employment"
- Evaluation of Eligibility
- Written plan setting forth the individual's employment goal and the specific services to be provided, was Individualized Written Rehab Plan (IWRP) now Individualized Plan for Employment (IPE)
- Comprehensive Assessment
 - May also include a referral for the provision of rehabilitation technology services, "to assess and develop the capacities of the individual to perform in a work environment."
- Informed Choice



Vocational Rehabilitation: Services

- Assessment
- Counseling
- Training
- Diagnosis and treatment of physical or mental impairments to reduce or eliminate impediments
 - To the extent financial support is not available from other sources
- Transportation
- Personal Assistance
- Supported Employment
- Assistive Technology



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Vocational Rehabilitation: Assistive Technology

- Evaluation of needs
- Purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices.
- Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing of assistive technology devices.
- Coordinating and using other therapies, interventions, or services with assistive technology devices.
- Training or technical assistance for consumer.
- Training or technical assistance for professionals



Ticket to Work and Work Incentives Improvement Act (TWWIIA)

- Consumers receiving SSI and SSDI get “ticket” to purchase services from employment networks
- Outcome based payment to networks
- Clients still eligible for VR
- Money for technical assistance
- Longer period of medicare benefits after cash payments cease due to income and possible continued medicaid eligibility for SSI (up to states)
- Uncertainty of networks funding AT



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Worker's Comp: Eligibility Criteria

- A system of statutes enacted by each state that provides medical, lost time and permanent disability benefits for employees hurt in the scope of their employment.
- Employees give up their right to sue employers directly in exchange for assured benefits. Employees don't have to prove negligence or freedom from contributory negligence in order to collect benefits.
- States have guarantee funds that take over benefits when an carrier goes bankrupt.



Educational Systems (IDEA, IDEIA)

- Free and Appropriate Public Education
 - Available to all students with disabilities aged 3 through 21
 - Student must meet the definition of one of several enumerated disabilities
 - Must be at no cost to parents or student
 - Does not mean a district must provide the "best" education
- Least Restrictive Environment
- Individualized Education Plan
- Individualized Family Service Plan



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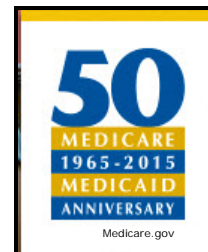
Educational Systems (IDEA, IDEIA)

- Exception: AT device does not include a medical device that is surgically implanted or the replacement of such device (cochlear implant exception)
- AT can assist students to remain in the Least Restrictive Environment.
- Home use if needed to ensure FAPE
- School owns the assistive technology
- VR may purchase AT when transitioning
- Each State Educational Agency must adopt the National Instructional Materials Access Standard (NIMAS) to ensure that blind and other persons with print disabilities receive instructional materials in a timely manner



Medicaid

- Established by Congress in 1965 as Title 19 of the Social Security Act
- The largest single funding source for AT devices in most, if not all, states
- State Medicaid programs, including the optional Home and Community Based Waiver programs
- Medicaid is best described as a vendor payment program



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Medicaid: Eligibility Criteria

Three-part test for determining the right to Medicaid-funded Durable Medical Equipment (DME)

- The individual must be eligible for Medicaid
- The requested item must fit within at least one required services category or an optional category that is covered in the state
- The requested item must be medically necessary for the individual requesting it



Medicaid: Eligibility Criteria

The individual must be eligible for Medicaid

- Supplemental Security Income (SSI) recipient or state specific criteria
- Medically needy
- Medicaid buy-in for working individuals
- Optional home and community based services waivers



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Medicaid: Eligibility Criteria

The requested item must fit within at least one required services category or an optional category that is covered in the state

- Mandatory Service Categories for AT/DME Funding
 - Home health care services (medical supplies, equipment and appliances)
 - Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) for children under 21



Medicaid: Eligibility Criteria

Optional Service Categories for AT/DME Funding

- Home health care
- Intermediate care facilities
- Occupational therapy
- Physical therapy
- Preventive services
- Prosthetic devices
- Rehabilitation services
- Speech, hearing and language therapy



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Medicaid: Eligibility Criteria

Many states define DME as equipment with the following characteristics:

- Can withstand repeated use
- Is primarily and customarily used to serve a medical purpose
- Generally not useful to a person in the absence of illness or injury
- Is appropriate for use in the home



Medicaid: Eligibility Criteria

Medical Necessity

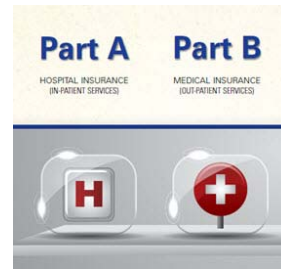
- The Medicaid Act provides funding for medical care, rehabilitation and other services for eligible individuals "to meet the costs of necessary medical services"
- In operating its Medicaid program a state "may place appropriate limits on a service based on such criteria as medical necessity or on utilization control procedures"
- A good **Letter of Justification** should support Medical Necessity



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Medicare

- Medicare is the federal government program that provides health care coverage for those 65 or older, or have a disability, regardless of income
- Part A - Hospital Insurance
 - Generally free
- Part B - Supplemental Medical Insurance
 - Premium based on income
- Part D - Prescription Drug Benefit
 - Premium



Medicare: Eligibility

U.S. citizen or have been a permanent legal resident for 5 continuous years,
AND

- 65 years or older.

OR

- Under 65, disabled and have been receiving Social Security Disability Insurance (SSDI) for at least 24 months.

OR

- Receiving continuing dialysis for permanent kidney failure or need a kidney transplant.

OR

- Have Amyotrophic Lateral Sclerosis (ALS- Lou Gehrig's disease)



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Medicare: DME

- Equipment must:
 - Withstand repeated use
 - Primarily serve a medical purpose
 - Generally not be useful to a person without an illness or injury
- Categories
 - Inexpensive or routinely purchased equipment
 - Items requiring frequent and substantial servicing
 - Prosthetic and orthotic devices
 - Capped rental items
 - Oxygen and oxygen equipment
- Payment Rates
- Competitive Bidding



Developmental Disabilities: Eligibility

- Eligibility for services is determined by the designated agency in the state
- State Plans
- Individual Program Plan (IPP)
- Condition must arise prior to age 22
- Condition expected to continue indefinitely
- Individual must have a “severe handicap to function in society”



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Private Sources of Funding

- Personal resources
- Revolving loan programs
- Private health insurance
- “Tech Loans”
- Local service clubs, i.e. Rotary
- Private foundations
- Volunteer organizations



Written Justifications

- Demonstration of need
- Effective supporting documentation
- Agency criteria must be met
- Terminology
- Use of video
- The assessment provides the necessary information for this process



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Service Delivery Systems

- Rehabilitation setting
- University based
- State agency based
- Private practice
- Assistive Technology Supplier/Equipment distributor
- Veteran's Administration
- Local affiliate of a national non-profit
- Volunteer programs



Assistive Technology Team

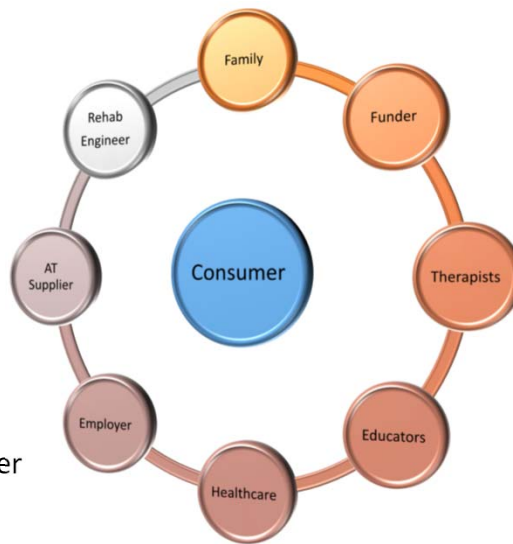
- Team approach to selecting appropriate AT
- Consumer as a team member
- Each team member bringing a unique perspective
- Working together to achieve a common goal



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Team Members

- Consumer
- Family & care providers
- Payer/funding source representatives
- Therapists
- Educators
- Physician/other health care professionals
- Employer
- Assistive Technology Supplier
- Rehabilitation Engineer/Technologist



Role of ATP on Rehab Team

- Referral and intake
- Needs identification
- Evaluation
- Implementation
- Training on use and application of AT
- Follow-up
- Follow-along



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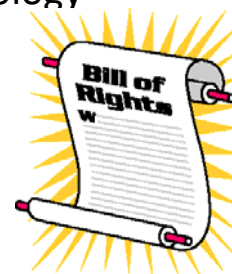
Role of RET on Rehab Team

- Referral and intake
- Needs identification
- Evaluation
- Implementation-Design, modification, customization and/or fabrication of assistive technology
- Training on use and application of AT
- Follow-up
- Follow-along



Consumer Bill of Rights

- Right to information about available devices and services
- Right to advocacy for needed AT
- Right to honest answers
- Right to independence using technology
- Right to due process
- Right to disagree
- Right to opinions about desired AT



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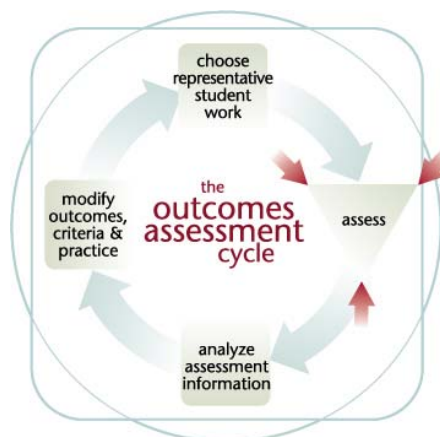
Quality Assurance

- Quality of services rendered
- Quality of devices supplied
- Certification
- Accreditation



Outcomes

- Program Evaluation
- Outcomes measurement and management
- Consumer-responsive outcomes management systems
- Developing an outcomes system



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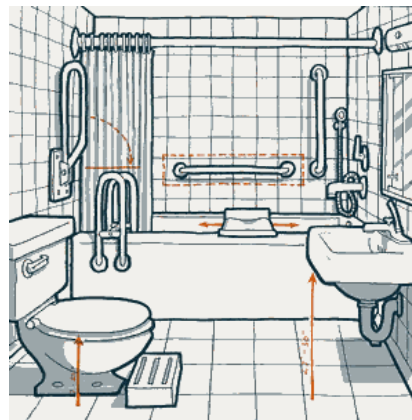
Assistive Technology Evaluation

- Performance: Does it work efficiently and effectively?
- Ergonomics: Does it fit the individual, is it convenient to use in the environment?
- Reliability: Does it stand up well to normal use, is it durable?
- Safety: Is it safe to use, is a margin for foreseeable misuse built in?
- Practical Questions: How much does it cost, is it available, are repair and maintenance services available?



Principles of Design and Product Development

- Design Process
- Product Testing
- Universal Design



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Figure 1
Steps of the Engineering Design Process

Design Process

- Identify a need
- Define the problem
- Conduct research
- Analyze set criteria
- Find alternative solutions
- Analyzing possible solutions
- Make a decision
- Present the product
- Communicate and sell the product

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Product Testing

- Individual components
- Prototype
- Clinical trials
- Beta testing
- Production line product

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Product Testing Measurements

Performance

- Safety
- Controllability
- Robustness
 - Impact, heat, cold, spills
 - Tested at limits of operational changes
- Durability
 - Fatigue testing
 - Tested during continuous operation to identify weaknesses or verify quality



Universal Design

The design of products and environments to be useable by all people, to the greatest extent possible, without the need for adaptation or specialized design.



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Principles of Universal Design

- Equitable use
- Flexibility in use
- Simple and intuitive use
- Perceptible information
- Tolerance of error
- Low physical effort
- Size and space for approach



From North Carolina State University, The Center for Universal Design, 1997



Liability

- Professional Liability
 - Group policy
 - Self-employed
- Product Liability
 - Modifications
 - Legal theories
 - Negligence
 - Breach of warranty
 - Strict liability



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Review Questions (feel free to discuss with your neighbors)

1. Per RESNA's Code of Ethics, which scenario would NOT represent an ethical dilemma?
 - a. Recommending devices that may restrict freedom or privacy
 - b. Purchasing AAC devices following an assessment by a qualified Speech and Language Pathologist
 - c. Selecting devices based on price more than function.
 - d. Recommending only devices manufactured by the ATP's employer
2. Which legislation authorizes state-wide programs to provide technology-related assistance to children and adults with disabilities, but prohibits payment of funds directly to vendors who provide AT devices to individuals?
 - a. Assistive Technology Act (Tech Act)
 - b. Rehabilitation Act
 - c. Medicaid
 - d. Medicare
3. Which legislation is NOT an entitlement program?
 - a. Americans with Disabilities Act
 - b. Ticket to Work
 - c. Individuals with Disabilities Education Act
 - d. Medicare



Review Questions (Here are the answers. How did you do?)

1. Per RESNA's Code of Ethics, which scenario would NOT represent an ethical dilemma?
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Questions?

