



**Pass It On**  
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... the National AT Reuse Center

# EXTENDING REUSE IN SPECIFIC CATEGORIES OF ASSISTIVE TECHNOLOGY:

*BARIATRIC, SLEEP (CPAP) MACHINES AND  
COMMUNICATION (AAC) DEVICES*

Carolyn Phillips

Liz Persaud

Trish Redmon

## Get CEU's or CRC's

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- **CEUs** are administered through GA Tech Professional Education
- **CRCs** are administered through Commission on Rehabilitation Counselor Certification (CRCC)
- To receive your verification form, send an e-mail with your name, organization, city, state, DOB and e-mail address to [Liz@passitoncenter.org](mailto:Liz@passitoncenter.org)

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# TODAY'S REUSE FOCUS

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## Bariatric DME

- For people who are overweight or obese

## CPAP Machines

- For people diagnosed with sleep apnea

## AAC Devices

- For people with communication difficulties

# LEARNING OBJECTIVES

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Understand the device needs for specific diagnostic populations usually underserved by reuse programs to support their employment and other daily activities

Become familiar with the recommended sanitization strategies to make communication and respiratory devices safe for reuse by new users without incurring additional financial liability for the reuse programs

Be able to identify reuse programs providing these devices as financial supports to rehabilitation clients in need of expensive devices

# **SPEAKERS**

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- × Carolyn Phillips, Director, Pass It On Center**
- × Liz Persaud, Training and Outreach Coordinator, Pass It On Center**
- × Trish Redmon, Consultant to the Pass It On Center**



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Durable Medical Equipment for Overweight Individuals

**REUSING BARIATRIC EQUIPMENT**

# THE OBESITY EPIDEMIC

1/3 of Americans are **obese**,<sup>1</sup> that is, have a body mass index (BMI) of 30 or greater, and another 1/3 are **overweight** (BMI >25), all incurring major health risks as a result

**15 million Americans meet the criteria for gastric banding**

- + 140,000 lap band surgeries in 2010
- + 100,000 gastric bypasses (2008)

Note: How to calculate BMI, see online calculators

<sup>1</sup> National Health and Nutrition Examination Survey



# OBESITY: THE SCARY PROJECTIONS



**2009-2010:**  
35.7% of adults  
obese, 17% of  
children

<http://www.cdc.gov/obesity>



**2030: 86.3%**  
overweight or obese,  
51% obese.

**African-American  
women – 96.9%**

**Mexican-American  
men – 91.1%**

**Related healthcare  
costs up to \$860  
billion**



**2048: All US  
adults will be  
overweight or  
obese**

# **BARIATRIC DEVICES: WHY NEEDED**

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- × Designed to accommodate increased weight and larger physical dimensions**
- × Physically larger than standard devices to accommodate patient size and/or stability**
- × Made of different materials that are sturdier and heavier (e.g., stainless steel instead of aluminum)**
- × Growing number of uninsured who are obese**

# BARIATRIC DEVICES: ISSUES

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- ✘ More expensive because they cost more to manufacture, ship and store
- ✘ More difficult for caregivers to lift, move and transport
- ✘ Often don't fit through standard doorways
- ✘ Emergency teams don't always have what they need: power-lift transport cots, larger BP cuffs, larger cervical collars, etc. (EM team injuries are a real issue.)
- ✘ Most hospitals aren't designed to accommodate bariatric patients; don't have AT readily available

# STANDARD VS. BARIATRIC DEVICES

**Standard DME:** Varies slightly, but usually up to 250 lbs. capacity (some up to 300 lbs.)

**Bariatric:** Varies from 500 to 750 lbs. capacity ranges, some up to 1,000 lbs.

**USERS MUST CHECK SPECIFICATIONS.** No federal laws address standards for bariatric patients.

Device	Standard Price Range	Bariatric Price Range
Folding walker		
Manual wheelchair	\$400 +	\$900 - \$1,123
Hospital bed, full elec.	\$907	\$1,657 - \$4,443
Shower bench	\$58	\$99 - \$822

# REUSE PROGRAMS AND BARIATRIC DEVICES

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- × Show devices in inventory:
  - + Wheelchair Recycling Program, Wisconsin
  - + Assistive Technology for Kansans

- × List as a need:
  - + FREE Foundation
  - + Bridge Ministries, Bellevue, WA

# ACQUIRING MORE BARIATRIC DEVICES

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- × Leave program donation literature with weight-loss surgeons' offices
- × Contact weight-loss surgery support groups
- × Contact rehab centers that do post-surgery therapy
- × Publicize the need:
  - + Post bariatric needs on your website
  - + Write about the increasing need in your newsletter
  - + Talk to DME providers in your community about stickers for devices

# BARIATRIC EQUIPMENT:

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## RECOMMENDATIONS FOR REUSE PROGRAMS

### × POLICIES:

- + Be prepared to identify bariatric devices by tracking manufacturer specs
- + Match customer to appropriate device

### × PROCEDURES:

- + Add inventory fields for weight capacity, dimensions
- + Identify bariatric devices physically
- + Ask customer weight on application for services (sensitive issue, but needed for matching and liability avoidance)



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Sleep Apnea:



## REUSING CPAP AND BIPAP EQUIPMENT

Special thanks to Connie White Daniel, Director, Sleep Disorders Center Anderson Regional Hospital, Meridian, MS, for contributing information for this section of the webinar.



# RESPIRATORY CONDITIONS (INCIDENCE)

- × Sleep apnea: upper airway obstruction during sleep that causes frequent awakening, then fatigue from lack of sleep
  - 18 million adults diagnosed and an increasing number of children
- × Chronic obstructive pulmonary disease (COPD): obstruction of lung airflow that interferes with normal breathing
  - 12 million diagnosed plus 12 million more in early stages not diagnosed

# SLEEP APNEA INCREASES OTHER RISKS



**Obesity is a significant risk factor for sleep apnea; 60% to 70% of patients are obese**

*Resta et al. Int J Obes Rel Metab Disord 2001*



**In obese patients with type 2 diabetes, prevalence of sleep apnea is 86%**

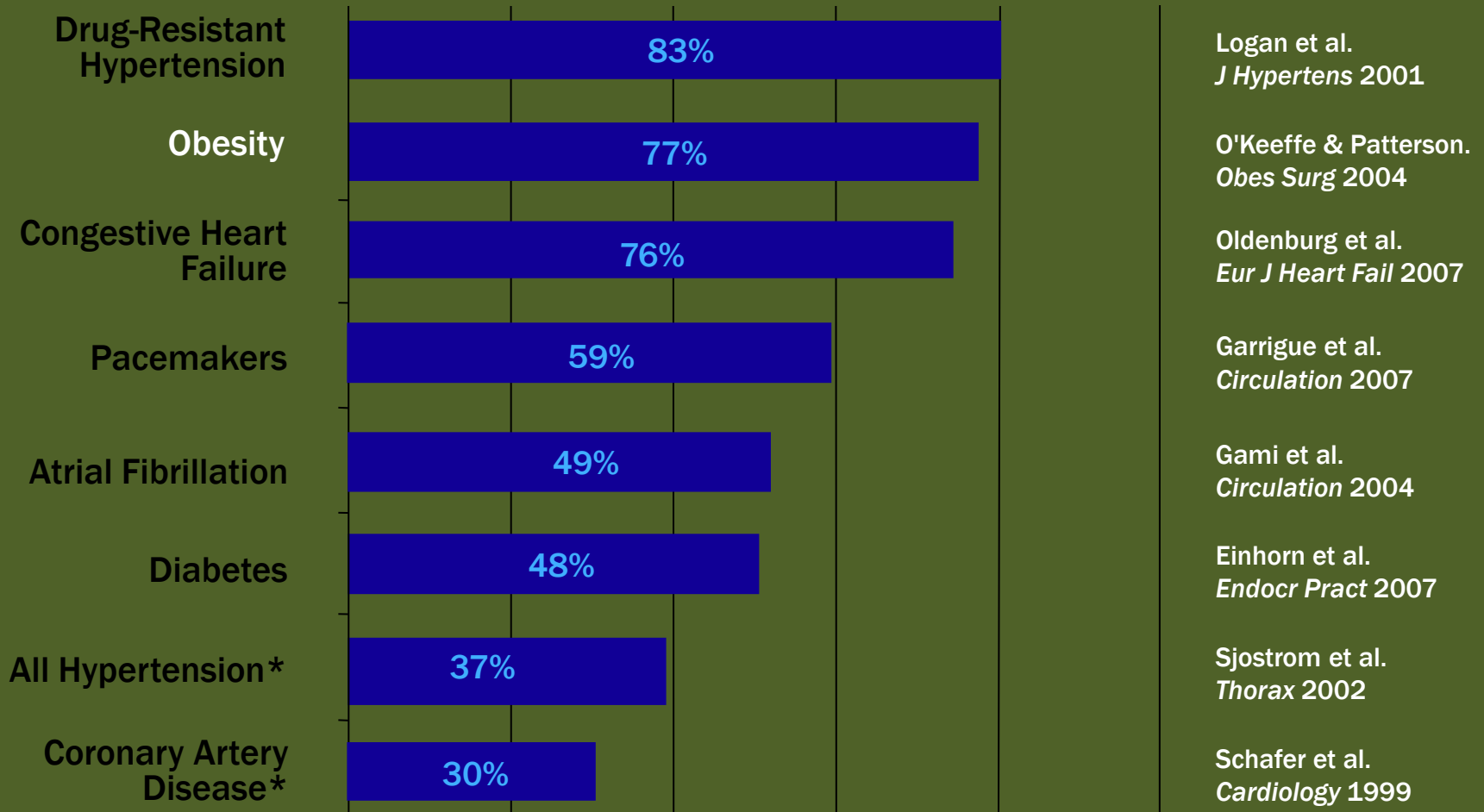
*Foster. Diabetes Care 2009*



**76% of congestive heart failure (CHF) patients have sleep-disordered breathing**

*Oldenburg. Eur Heart J 2007*

# SLEEP APNEA AND RELATED CONDITIONS



# DIAGNOSING SLEEP APNEA

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× People with suspected sleep disorders are referred to a sleep center for an overnight test

× If sleep apnea is diagnosed, the patient will be tested to identify the appropriate level of continuous positive airway pressure (CPAP) (or possibly BiPAP)



# SLEEP AND THE WORKPLACE

- ✗ Sleep deprivation affects work:
  - + Productivity
  - + Safety
  - + Decision-making
  - + Job retention

Some workers (e.g., pilots, truck drivers) are required to have CPAP machines with “smart” cards if diagnosed with sleep apnea. The results are downloaded and reported to insure public safety.



# SLEEP APNEA AND LEARNING

- × Learning takes place only when a person experiences multiple rapid eye movement (REM) cycles to “store” information in memory.
- × Sleep is directly linked to grades of students.
- × One in four U.S. high school students admits falling asleep in class at least once per week.
- × Students should get 8.5 to 9.25 hours of sleep, but are getting only 7.



Huber R, Ghilardi MF, Massimini M, Tononi G (2004) Local sleep and learning. *Nature* 430: 78-81

# A CPAP OR BIPAP DEVICE



Face mask with headgear to hold in place. Masks and headgear or chin straps come in many designs, shapes and sizes.



A CPAP base unit:  
A powered device that may include a humidifier.  
Connects to user's face mask with a flexible plastic tube.

**SETTINGS:** The sleep physician prescribes a pressure setting based on the patient's need. A sleep tech or respiratory therapist sets the machine. The user cannot do this. (BiPAP has two pressure settings, one for inspiration, the other for expiration.)

# REUSING CPAP DEVICES SAFELY

## Replace the peripheral components

Discard mask, headgear, tubing, chin strap

New mask, headgear, tubing, chip strap



## Unplug, then sanitize the base unit

Clean exterior of machine carefully (see KB)

Clean water reservoir for humidifier (if it has one)

Replace the filter(s)



## Matching by professionals

New mask based on fit by sleep technologist

Rx from physician with specified setting(s) for the machine



# HOW CAN YOU AFFORD NEW ACCESSORIES?

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- ✘ Talk to a sleep diagnostic center, preferably run by a hospital.
  - + Ask the center to partner with you to provide the new accessories.
- ✘ Sleep labs have purchasing contracts with CPAP suppliers. They get accessories for a fraction of the retail cost.
- ✘ They want patients to have the equipment they need.

# EXAMPLE: CPAP REUSE PROGRAM

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- × **The Reggie White Sleep Disorders and Research Foundation, West Allis, WI**
  - + **The Sleep Wellness Institute, a large sleep center, through the Foundation, provides refurbished CPAP machines (about 25 per year) to patients in need.**
  - + **Most machine donations come when patients upgrade to new equipment.**
  - + **Has arrangement with vendors to take provide new accessories from their purchasing contract.**

*Thanks to Cody Glorioso, DME Director,  
Sleep Wellness Institute*

# CPAP REUSE IN KANSAS

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× Kansas Equipment Exchange (KEE) shows 7 CPAP, 1 BiPAP in current inventory

× KEE partners with Kansas Medicaid program for equipment reuse

# HOW TO ACQUIRE CPAP DONATIONS

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- ✘ Talk to CPAP manufacturer reps and local DME suppliers about donating discontinued models
- ✘ Talk to local suppliers about encouraging donations when customers upgrade
- ✘ Publicize the need for CPAP devices with messages on your website, in your newsletter or in signs in your facility
- ✘ Place program information in the offices of sleep physicians (ask your local lab for names)

# REUSE PROGRAMS AND CPAP

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## × Recommended policies:

- + Accept CPAP and BiPAP machines
- + Reassign only to patients with Rx
- + Comply with state laws for set-up (some require RRT or RPSGT)

## × Recommended procedures:

- + Discard accessories
- + Sanitize base unit
- + Provide new accessories by partnering with DME provider or sleep lab



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AT for People with Communication Difficulties

## **REUSING AAC DEVICES**

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# AAC DEVICES: THE NEED

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- ✘ Several studies suggest that 8 to 12 people per 1,000 have communication impairments that require AAC<sup>1</sup>
- ✘ Two types of individuals benefit:
  - +Long term: dysarthria, aphasia, apraxia
  - +Temporary: tracheostomy, intubation

<sup>1</sup>[www.asha.org/research/reports/aac.htm](http://www.asha.org/research/reports/aac.htm)

# TYPES OF AAC DEVICES

- ✘ Low tech: graphic communication boards (sometimes eye gaze techniques)
- ✘ High tech: voice output communication aids (electronic speech apparatus)





# AAC DEVICES: THE ISSUES

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- × Children with severe communication impairments not introduced to AAC early enough experience significant delay in communication development
- × Lack of AAC awareness and expertise among clinicians
- × Standards being developed
  - + Benefits
- × Standards specifically being ignored
  - + Drawbacks and benefits

# REUSE OF COMMUNICATION DEVICES

× In AT Act Programs

REUSE ACTIVITY	PERCENT OF TOTAL	NUMBER OF DEVICES	VALUE OF DEVICES	AVERAGE VALUE
EXCHANGE	6	93	\$89,002	957
REFURBISH/ REASSIGN	.7	216	\$184,493	\$854
OPEN-ENDED LOAN	5	375	\$349,833	\$933

Source: CATADA, 2011 Data

# WHAT IS YOUR AAC REUSE PLAN?

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- × What does your community need?
- × What equipment do you have?
- × What type of AAC devices would you like to reuse?
- × What vendor/manufacturer relationships do you have/need?
- × What SLP & AT relationships do you have/need?

# WHAT IS YOUR AAC REUSE PLAN?

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- ✘ Who evaluates the needs of your program participants?
- ✘ What is the training plan for your program participants?
- ✘ What is the technical assistance plan?
- ✘ Who is going to repair the device?
- ✘ What AAC should you Reuse and when do you recycle?

# TIPS FOR SUCCESSFUL AAC REUSE

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- ✘ **Restore Devices to Manufacturer Specifications:** Reutilization programs that refurbish devices should ensure that the device functions the way the manufacturer intended.
  - + Refurbishers may not modify devices to different safety or performance specifications.
  - + If the device was not meant to be used for a purpose as originally designed and marketed by the manufacturer, it may not be modified for that purpose by a refurbisher.

# THINK: COLLABORATION

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- × **Consider Partnering:** Work closely with local vendors – vendors can be a great asset both in identifying appropriate devices, connecting you with licensed practitioners, tracking recalls and reporting device incidents.
- × **Licensed Practitioner Assistance:** Establish relationships with licensed practitioners for matching, training and follow-up.

# TIPS FOR SUCCESSFUL AAC REUSE

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- × **Appropriately Match & Inform & Train Consumers: Matching & training on the device may also help the consumer to safely operate the device and obtain the greatest benefit from the device.**
  - + **Consumers should be aware that the device they are being given or sold was previously used.**

# **KNOWING THE PERSON YOU ARE ASSISTING**

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- × Disease stage and Denial**
- × Low tech vs. High tech**
- × Individuals initiative / Expertise**
- × Family buy in and support**



# UTILIZING ALL YOUR RESOURCES

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- × Don't GIVE everything away
- × The Vendor relationship
- × Individual education and the SLP
- × Utilizing MDA & other grants
- × Personal & Corporate donations

# ADAPTING AS YOUR PROGRAM GROWS

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- × Device maintenance
- × Volunteers and Follow-up
- × New areas of Service
- × Reclaiming devices
- × DO - Expand your program to meet multiple community needs as it grows
- × DON'T - Don't over extend resources or expertise to meet demands
- × DO what you do and do it well!

# STRATEGIES FOR ACQUIRING MORE AAC DEVICES FOR REUSE

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- × Publicize the need
  - + On websites
  - + In newsletters
- × Network with providers
- × Network with rehab centers who work with temporary users of AAC devices
- × Find ways to develop public awareness about severe communication impairments and the role of AAC devices

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## CONTACT US:

Carolyn Phillips

[Carolyn@passitoncenter.org](mailto:Carolyn@passitoncenter.org)

Trish Redmon

[Trish@passitoncenter.org](mailto:Trish@passitoncenter.org)

Liz Persaud

[Liz@passitoncenter.org](mailto:Liz@passitoncenter.org)

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