It ain't what you do; it's the way that you do it:
An Introduction to Switching

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Overview

- Introduction to ACT
- Appropriate goals
- Stages of switch learning
- Assessment
- Types of switches
- Switch input style
- Mounting

Introducing ACT

- Regional NHS Tertiary Assistive Technology Service
  - AAC, EC, computer access
  - Children and adults

- Mission statement:
  - To empower people with disabilities, using techniques and technologies which optimize potential for communication and control

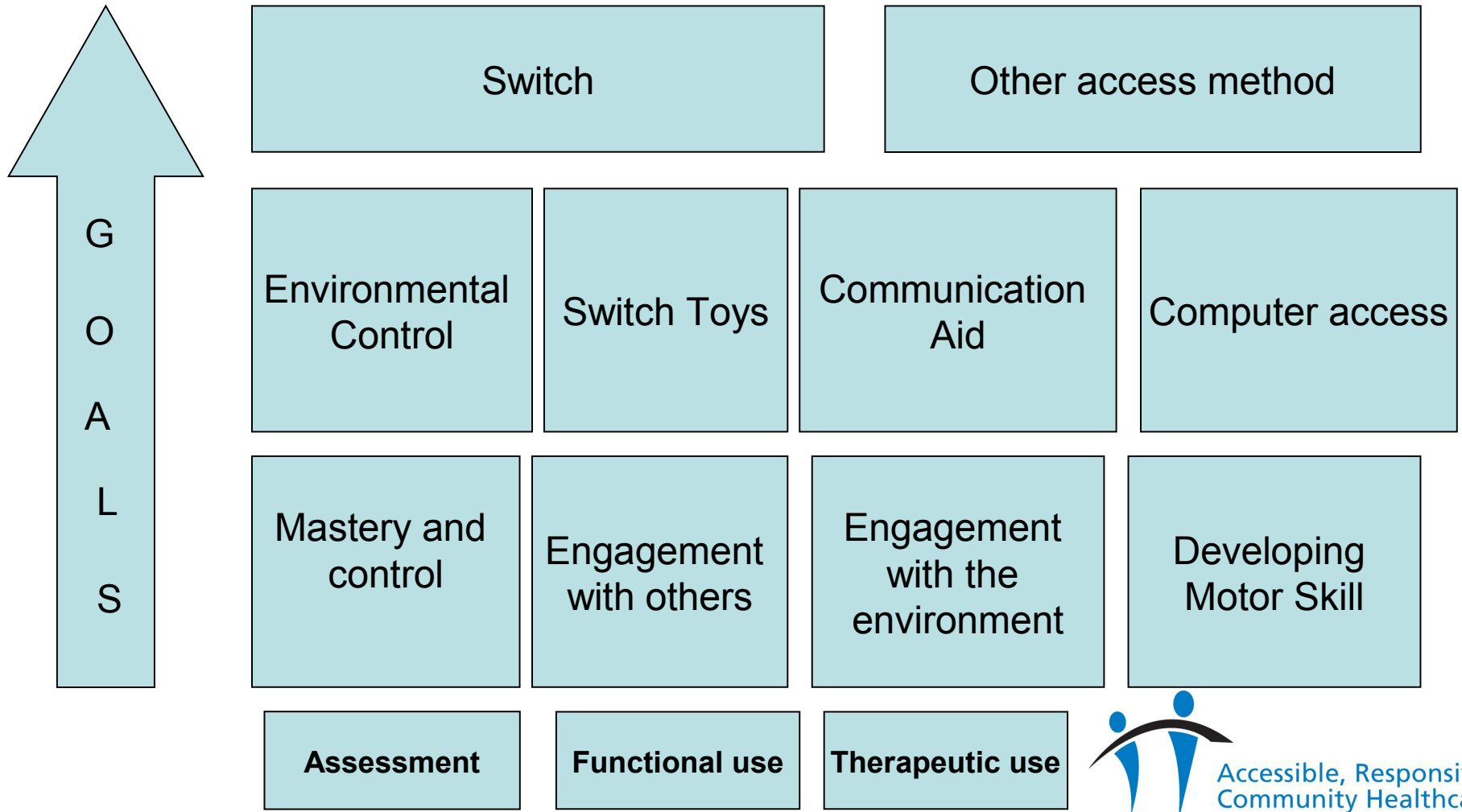- Staff: OT, SLT, Clinical Scientists, Workshop team, Administrators: about 25+ people.

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Contacting ACT

Website: http://www.actwmids.nhs.uk/

Email: Firstname.Secondname@bhamcommunity.nhs.uk

Phone number: 0121 627 8235

Address: Access to Communication & Technology
West Midlands Rehabilitation Centre
91 Oak Tree Lane
Selly Oak
Birmingham
B29 6JA

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Focusing on goals

Switch		**Other access method**

Environmental Control	Switch Toys	Communication Aid	Computer access

Mastery and control	Engagement with others	Engagement with the environment	Developing Motor Skill

GOALS (shown vertically with upward arrow)

**Assessment** **Functional use** **Therapeutic use**

Sharon needs a switch?

We want:

- To find a switch for Sharon
- To find some technology which will improve Sharon's quality of life
- Sharon to have more control over her environment
- Sharon to be able to use the TV
- Sharon to be able to change the channel
- Sharon to be able to choose between ch 1 and 4
- Sharon to be able to choose from two options

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"Well, if I wanted to go there, I wouldn't start from here ..."

- What is Sharon's goal?
- Why the television?
- Who has control?
- Who wants control?
- What role does technology play?

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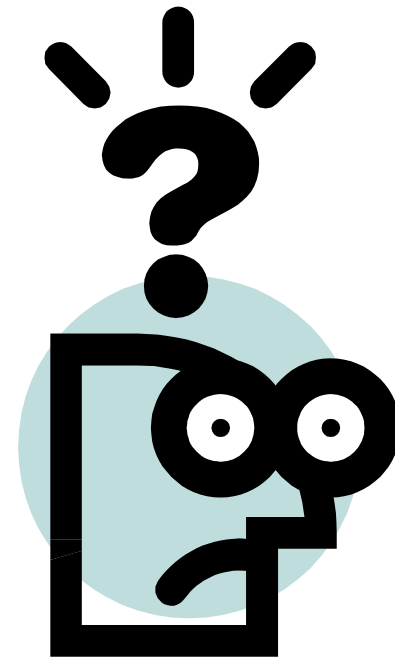
Are you sitting comfortably?

Team and environment – skills and determination!

Seating and posture

Medication, intervention, therapy

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Assessments

Physical Aspects

- Single repeatable movement
- Some of the factors to consider would include:

  - Posture and positioning
  - Intentional movement / unintentional or associated reactions
  - Tone
  - Tremor
  - Sensory loss

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Assessments

Cognitive / Psychosocial Factors

- Memory
- Attention
- Problem solving
- Sequencing
- Initiation
- Motivation
- Attitude
- Past experiences

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Assessments

Environmental Aspects

- Position of client
- Position of equipment
- Complexity of the equipment
- Ability of environment to support
- Risk Factors

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Challenges for developing switching

- Memory
- Processing time
- Impetuousness
- Sensory needs
- Posture / tone
- Time taken to make a movement
- How items are presented and represented
- Unmotivating activity
- Fatigue
- Medication

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Observation Activity

We are going to view 2 short video clips showing people using switches.

Please consider:

- Physical Aspects

- Environmental Aspects

- Cognitive / Psychosocial Factors

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Video 1

http://www.youtube.com/watch?v=yKS1I2uUICE

Observations

Physical Aspects:

**Trunk well supported -
Head not so much!
Not much effect on tone
Elbows stabilised**

Environmental Aspects:

**Distractions in the room
Activity in line of sight**

Cognitive / Psychosocial Factors:

**Motivation
(how exciting are yes / no choices?)
Initiation
Age appropriate
Why two switches?
Non-verbal communication ignored
Small symbols**

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Video 2

http://www.youtube.com/watch?v=3Qz49A-cu_I

Observations

Cognitive / Psychosocial Factors:

Low load

Turn taking and timing

Integrating low tech

Total communication

Motivating

Age appropriacy???

Physical Aspects:

Good hand function

Pointing to symbols

Good control

How supportive

is harness?

Environmental Aspects:

Distraction?

Good support from partner

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Getting it wrong?

- Frustration
- Loss of interest
- Positioning / issues
- Missed opportunities
- Time lost
- Fatigue

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Key points

- What are your goals?

- Both situations are about interaction, rather than something like EC or toys.

- How might switching goals differ?

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Stages of Switch Learning

Lets begin……

Cause & Effect - a term describing the concept of "being aware that a thing or person can create change in another thing or person"

However, this does not need to be established in order for them to begin the journey → pre-intentional

Essential that those around them
- Know how to tailor the AT to a suitable level and build skills incrementally
- Have realistic goals
- Consider means, reasons & opportunities

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What is Cause & Effect?

The concept of cause and effect is a spectrum:

- Pre-intentional/reflexive action
- "Noticing" change
- Becoming intentional
- Influencing self and others > toys and tools
- Means end relationships
- Planned processes (cooking)

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Routes for Learning

http://wales.gov.uk/topics/educ

- DVD

Chapters 9 & 12

Switching & choice making

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Early Switch Activities

- Computer games – lots of different types at different levels e.g. Priory Woods, Jigsaw Maker, Choose and Tell etc

- Environmental control activity using PowerLink – turning radio on/off

- Remote control toys

- PowerPoint Presentations

PowerPoint photos

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Address http://www.stepscharity.org/   Go   Links

STEPS

Registered Charity
No : 1115505

Telephone : 01803 214124

Developmental Adapted Toy and Switch Library

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TOYS

SWITCHES

A-Z STEPS

FORUM

ENQUIRE

Welcome to STEPS Charity

Hello, welcome to Steps. .... we have a new number so please telephone 01803 214124

Steps exists because we have the passionate belief that no child should be denied the magical, joyous, life-enhancing and educational benefits of play because of a disability.

Covering the whole of the UK, Steps provides a FREE Developmental Toy and Switch Lending Library service to individual children and hospices. We also run a subscription service for organisations. We have amassed a huge stock of unique battery-operated toys, external switches, expertise in adaptation techniques and in the matching of toys and switches to the needs of the disabled child.

Mainstream toys are adapted so that, with a special external switch, children can play independently by switching on the toys by squeezing, pressing, bashing, blowing, sucking...whatever movement the child has. Please feel free to browse our site, or give us a call.

What's New?

As of 1st March 2009 and as due to the current recession, securing funding for Steps has, and may continue to be difficult during this financial crisis. To ensure we can continue to deliver an excellent service to all our existing members, new registration enquires are being added to a waiting list.

PLEASE continue to call Steps to have your name put on our waiting list, as this will be used as evidence to secure new funding so we can register more children. You really can help us, so we can provide more free developmental toys to disabled children across the UK. We are truly sorry for this inconvenience and thank you for your

Done   Internet

Start | Main Menu | AAC care pat... | STEPS Charit... | Inbox - Micro... | 9 Reminders | Document1 - ...   11:04

Types of switches

Contact Switches

- Pressure Required to operate switches
- Positive feedback
- 'Travel distance'
- E.g. Jelly Bean, Specs Switch, Buddy button
- Adjustable pressure

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Low Pressure Switches

- Touch or low pressure required to operate
- Little physical feedback
- Zero Travel distance

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Leaf / wobble Switches

- Cope with spasms
- Two way deflection

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Pneumatic Switches

- Operated by air-pressure

- Squeeze / Push

Chin Switch(es)

- Head Movement (!)
- 'Easy' mounting
- Needs consistent positioning

- Can have multiple neck switches

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Sip & Puff Switches

- Mouth operated
- Intrusive
- Mounting?
- Cleaning blockages

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Eye Blink Switches

- Switch with a blink

- Glasses / head band mounting

- Future – video based?

Other Switches

- Head Switches (Turk)
- Sound switches
- String switch
- Muscle switches (Piezo & EMG)
- Vibration switch
- Mercury tilt switch
- Bespoke Switches

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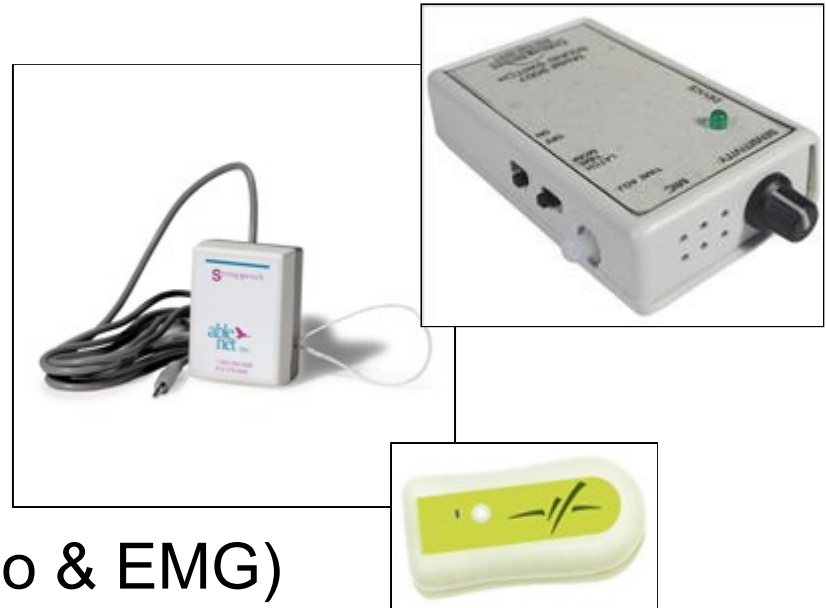
Changing Switch Input Style

- Invert them
- Delay them
- 'Debounce' them
- Latch them (one activation starts the activity a second stops it)

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Mounting

Factors to consider with mounting:

- Risk
- Stability
- Repeatability - photos
- Degeneration / improvement
- Effectiveness
- Environment, set up etc..

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Explore other solutions

- Velcro
- Dycem
- Ultra Stick
- Flexible arm
- Floor stand
- Double sided sticky tape
- Foam
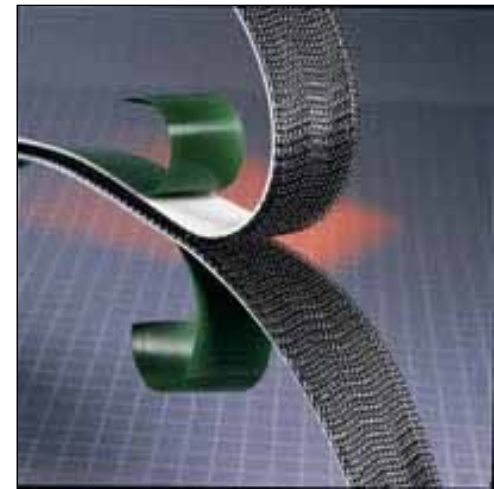
- Then consider when to refer to ACT or other agencies

Next, scanning?

- Got one, what next?
- More with 1- mains controller
- 2 switches: 2 actions
- Activate, release, wait, activate
- Basic timing
- Directional switches

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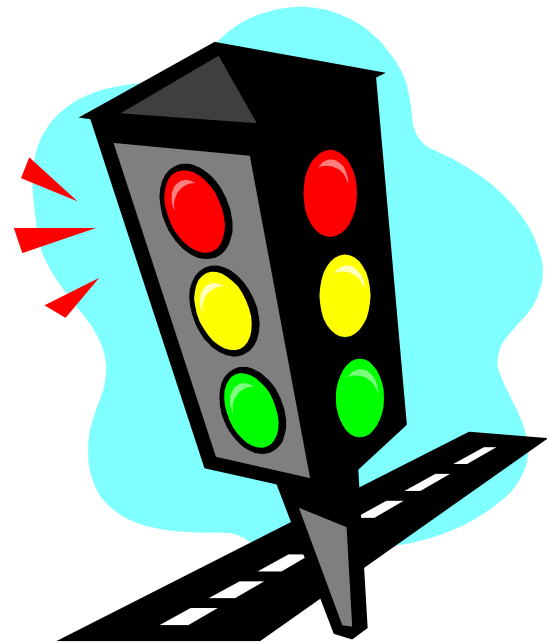
Taking a breather!

- What else could be happening?
- Revisit the goals
- Simplify to minimise variables
- Fresh pair of eyes

Jelly bean/specs switches

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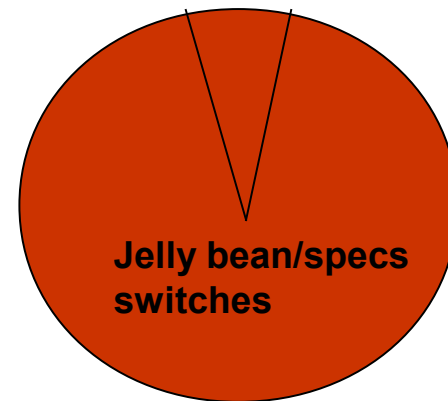
Other reading / resources

- **"Switching to Success: Stages in Switch Development" Tony Jones & Judy Robertson – presented at CM 2008**
- **"The development of switching skills to assist access to the curriculum for pupils with severe and complex needs" NOF Unit 8 (2000)**

www.inclusive.net/resources/units/unit8/unit8_13.shtml

- **"Switch Access to Technology, A Comprehensive Guide" Colven, D and Judge, S (2006) available to download free from the ACE centre website:**

www.ace-centre.org.uk/index.cfm?pageid =01AC8F54-3048-7290-FE3D372D6EF105B1

- **A switch assessment framework from the ACE Centre North**

www.ace-north.org.uk/pages/resources/documents/SwASsessmentFramework.p

- **Priory Woods Cause & Effect videos**

http://www.priorywoods.middlesbrough.sch.uk/page_viewer.asp?page=Switch+

- **Steps toy library**

http://www.stepscharity.org/index.php

- **Royal Hospital for NeuroDIsability**

www.switchscanning.org.uk

- **www.oneswitch.org.uk**

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From the Coal Face…

Experience has shown us…

- – Be Goal Driven
- – Be creative
- – Motivation
- – Use whole team
- – Know when to stop

- – What have you found useful?

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The Bananarama rule!

If you remember nothing else, remember this:

http://www.youtube.com/watch?v=doHQjoQmr1E

"It ain't what you do it's the way that you do it"

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