The paper presents outlines of suggested physical education activities that can be done semi-independently with children in wheelchairs. Sections address the following areas (sample activities in parentheses): developmental activities (rolling over, eye tracking, sliding), activities with an adult (games for two), music activities (dancing), body image activities (shadow play, photography), aquatic activities (painting with water, making bubbles), sensory experiences in the outdoors (listening for sounds), art activities (finger painting), and adapted sports ideas (kickball, bowling).
PHYSICAL EDUCATION FOR KIDS WHO CAN'T MOVE

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"
Abstract

This presentation was conceived in urgent necessity when this author was left to singlehandedly teach physical education to seven tiny children parked in a circle of orthopedic chairs. Recruiting what help was available, six educable mentally handicapped children aged twelve and thirteen graciously provided the one to one ratio needed to get the tiny children out of their chairs and into physical education. Even six years experience in adapted physical education was not enough, much research and experimentation was needed to develop the activities shown in this presentation.

The paper presents an outline of suggested developmental activities that can be done semi-independently, activities that need a one or even two to one adult to child ratio but provide enjoyable ways of physically stimulating the child, activities for moving to music, activities for developing body image and awareness, activities for simple water play at school, activities stressing sensory awareness in the outdoors, simple art activities, and ideas for adapting traditional sports for somewhat older children. In addition there are ideas for movement education experiences using manipulative materials and two types of jogging programs.

The slides also show some group activities such as rhythms, parachute play, the ring on a string game, and some activities using adapted equipment. The equipment can be used for station work, varied to provide different challenges; and obstacle courses can be set up for the ultimate in movement fun.
VELEODV5NVRAL

1. Rolling Over -- back to stomach, stomach to back, complete roll to right or left, from hand and knee balance roll to back, from back roll to hand and knee balance, forward roll (somersault), backward (diagonal) roll.
   HELPER: roll down an incline, roll in a barrel, wrap child in a beach towel and unroll onto a soft surface.

2. Sitting Up -- cross legs Indian style or spread legs apart, lean forward and use arms for support.
   HELPER: lean against a wall, sit in a corner, sit in or on one edge of an inner tube, combine inner tube and corner support, sit in a cardboard box, in beanbag or overstuffed chair.

3. Balances -- Lie on left or right side, balance on hands and knees.
   HELPER: Prop with sandbags (make with legs of cut off jeans), prop with pillows or foam pieces.

4. Ball Balances -- lie prone or supine over a large ball for a minute, watch for relaxation of tension. See if child can support part of body weight on a hand or hands, knees, feet. Rock back and forth gently, joggle quickly, tip in all directions to increase awareness or attention. If child can sit up on ball, put feet flat on floor and have child do various exercises with arms (arm circles, toe touches, mirror imitations), see if child can lift feet, pose like a statue, "walk" on floor with hands away from ball and return (hold feet or trunk if needed).
   HELPER: try various size balls, soft, hard or inflatable balls (Partial inflation). Stuff a beachball with carpet padding, tape closed, for a foam ball cheap.

5. Standing -- in a standing box, in a corner, holding onto a bar, leaning on a wall or pole (with waist support belt), in an infant-type walker, with walker, crutches, holding onto wheelchair handles, with splints made from magazines and strips of cloth.
   HELPER: Use waist support belt, provide visual or auditory distraction, use prone board or stand on books to stretch heel tendon.

6. Hand-eye -- while sitting push ball off lap, prone on table push ball off table. Grasp ball drop to floor, swing arm and drop ball in a forwards or backwards direction.
   HELPER: try all kinds of balls, yarn pom-poms, beanbags of all shapes and sizes, balloons, marbles.

7. Eye Tracking -- with arms or legs hit various objects suspended on a string within reach in sitting, prone or back lying positions. Objects can be anything, yarn balls, tennis balls, milk cartons, bells, rings, hoops, toys, balloons. Child could also hold a striking object (or have one taped to a limb) such as ping-pong paddle, cardboard roll, stick, stocking racket, fat bat.
   HELPER: ceiling hooks, wall hooks with string or cord crossing room, volleyball poles, tetherball poles, jungle gym, swing set frames, chart stands, basketball hoops, trees.
8. **Pulling** -- in various body positions have child pull on various objects tied on a string (ring toss rings or large wooden beads). HELPER: make something happen when string is pulled -- a bell jingles, a light bulb goes on and off (use colored bulbs), a clothespin may let string come off (take down the "laundry").

9. **Advanced Pulling** -- use bicycle inner tubes and pull with various body parts working against each other, put the tube around part of a wheelchair and pull in different directions. Also do isometric pulling with broomsticks and towels. HELPER: pull with a partner, group pulling, combative pulling. Loop tube around feet sitting, use body as slingshot and with arms pull back a beanbag or golf ball and let it fly.

10. **Rope Pulling** -- tie a rope horizontally 12" or so off the floor. Child pulls body a distance along the rope sliding on the floor. Child's back is on floor, carpet square or scooter as needed. Using a vertical rope child tries to pull up from back lying position to a sit, to knee balance or to full stand. Rope may need to be stabilized at bottom for some. HELPER: use thick soft rope if possible. Tie securely. Also can make rope spider web criscrossing the room.

11. **Sliding** -- on kindergarten indoor slide (or smooth, finished boards), let child slide down a few feet onto floor lying on back or stomach, headfirst or feet first. HELPER: wrap child in beach towel or small blanket, place child on carpet square, put child inside cardboard box in sitting position (be sure he can see) and let the box slide down the incline. Change the angle of the slide or the length.

12. **Travelling with scooter** -- using various sizes of gym scooters (some padded) child can propel self with hands and arms lying on stomach, back, seated or kneeling in any direction he wishes. Try forwards, backwards, sideways and spinning. Unable child could be strapped on and pushed or pulled by a partner. HELPER: make an obstacle course, slalom course, have races, relays, make trains, play scooter soccer, wheelbarrow child by holding feet and pushing.

13. **Fine Motor Fun** -- with golf balls. Child who is able to release a golf ball or push one along will enjoy rolling them down cardboard tubes, dropping them into containers of all kinds, rolling them down inclines, towards a target with "mouseholes" cut into it, and combining junk into Rube Goldberg inventions such as rolling down a tube into a coke case and seeing which hole it will drop into. HELPER: large 5" diameter tubes are inside butcher paper rolls, these are also quite sturdy. Painted golf balls or pool balls are good on a carpeted floor for bocce or marbles types games. Masking tape circles, targets. Child can play sitting or lying on stomach.
ACTIVITIES WITH AN ADULT

These are activities that need a one to one relationship. They can be used either by the teacher, therapist or aide. The best use would be to use them to train volunteers or parents.

1. Adult as Support
   --hold child on your lap facing forwards, backwards, sideways.
   --while sitting, let child straddle your leg, give horsey ride.
   --while standing, have child straddle your hip on the side, give child a piggyback ride on your back or shoulders.
   --hold child upside down, drape him off your lap, standing hold him by the waist, knees or ankles, drape him over your shoulders and down your back.
   HELPER: another adult may be needed to position child. Amuse and distract child with nursery rhymes, poems, songs or stories.

2. Adult as Locomotion
   --sit on floor with legs spread, seat child between your legs and scoot across the floor and around the room.
   --hold child upright with his feet on your feet, as you support trunk, lean him against you and walk around the room.
   --sandwich a large child between two adults, put his feet on the feet of the adult he is facing and hugging, all together hug and walk around the room. Also can dance this way.
   --adult get down on all fours, child can ride horseback with another adult walking along and supporting him.
   --spin child in different ways. Hold him by the chest under the arms and spin so his feet fly out, go other direction. More able children can be held by the wrists, one hand and one ankle (airplane spin), or by the ankles (death spiral).
   --swing child between adult's legs by locking arms under the child's thighs to provide a swing "seat". Two adults can swing a child from side to side by holding his wrists and ankles. If child cannot support head, place him in a beach towel and swing him hammock-style.
   HELPER: use small blankets or beach towels to wrap child and provide security and support. For more adventure lay child on towel and pull him along the floor, around the room, down the hall, under things, over small bumps. Try going fast and stopping suddenly and sweeping the child "crack the whip" style.

3. Adult as Explorer
   --help child explore room by placing him on tables, rocking chairs, hobby horses, wheel toys such as wagons, tricycles, big wheels, bicycle, scooter, wheelbarrow.
   --outside help child to sit on see-saw, swing, slide, merry-go-round.
   HELPER: support trunk if child can sit alone, hold him on your lap so he can lean against you, wrap him in a towel or put him in a box for more support.
4. Adult as Apparatus

--stand with feet apart, let child crawl between your legs, roll a ball between your legs and then crawl after it.
--stand and hold a broomstick horizontally for the child to hang from; hang with hands, hands and legs, knees only.
--sit with legs straight but spread wide. Have child run around you jumping over your legs (stepping if he can't jump yet). Bring legs together and see if he can jump over both of them.
--have child sit on your lap facing you with legs spread around your waist. Holding him, bounce your knees. Surprise child by occasionally spreading your knees so he drops down between them a little ways. Whoops!
--have child lie on back on the floor with his arms up over his head. Stand with your back to his head, reach between your legs and grasp his hands or wrists. Quickly pull the child between your legs, up and into a standing position.
--lie on your back on the floor, have the child stand at your feet, bend your knees and place the soles of your feet on his tummy, hold his hands and straighten your legs up pulling the child off the floor and into an ANGEL balance. Bend your knees and lower the child onto his feet.
--lie on your back as above but have the child turn around and sit on the soles of your feet, have him lie back and hold his shoulders. Gently flip the child over backwards by pushing your feet up and lowering the child's shoulders. His feet will land on the floor over your head. Have a spotter help you the first few times you try it.
--a forward flip can be done with both of you standing, the child stands facing you and puts his head between your legs and reaches with his hands between his own legs. You reach down and grasp his wrists and pull up. The child will flip forwards and land on his feet.
--another way to flip a small child forwards is to have him stand in front of you, facing away from you. Crouch down and reach between his legs and grasp his wrists. Straighten up til you are standing and the child is sitting on your forearms. On signal the child puts his head down and rolls forwards, keeping your grip on his wrists, lift him up a little as he flips and set him on his feet.

5. Games for Two

--Peek a Boo (use a sheet or towel to cover child's head. Pull it off and encourage him to pull it off himself. Put the cloth on your own head, pull it off or let him pull.)
--Hide and Go Seek (everyone knows this game)
--Pat a Cake (manipulate the child's hands)
--Rock a Bye Baby (pretend to drop child)
--Peas Porridge Hot

OLDER CHILDREN enjoy table games such as checkers, board games like Chutes & Ladders, Card Games like Slap Jack, Go Fish, War; and paper and pencil games like tic-tac-toe, Battleship, Boxes, Hangman. Verbal games are fun too, Twenty Questions, Animal-Vegetable-Mineral, etc.
MUSIC ACTIVITIES

Try these activities not only with the child seated but also lying prone or on his back or on a wedge.

1. **Moving to music**
   -- have the child move various body parts to the music.
   -- move by bending and stretching, shaking, clapping, swinging.
   -- give him a rhythm instrument, bells, shakers, sticks, etc.
   -- use different types of music, march, waltz, jazz, pop, etc.
   **HELPERS:** secure bells to wrists or ankles with elastic, use tape to secure a stick to an arm, hit a table top.

2. **Dancing**
   -- position the child for as much freedom as possible, encourage any type of rhythmic movement response.
   -- have a partner hold the child's hand and dance with him, in front of and around his chair.
   -- have a pusher put the child through folk and square dance figures.
   -- current literature has square dancing for all wheelchair participants. Use a pusher and modify a dance if only some of the participants are in wheelchairs.
   -- have adult pick child up and dance while carrying him, child can walk on adults feet or be carried sandwich style.

3. **Jogging**
   -- choose music for running. Have the children "jog" around the room, gradually increase the time to 5 minutes. No stopping, if child is tired he can "walk" but not stop or sit down. Unable children can kick their feet in their chairs or while lying on their backs or stomachs.
   -- praise those who keep moving. Point out physical changes "Huffing and Puffing" or feel your heart "thumping". "That's how you know you did it right."
   -- some children who cannot run or walk on crutches can use scooters and propel themselves with their arms.
   **HELPERS:** Vary the music but keep it stimulating, when it gets boring, try making changes in the room (go around this table, or between these chairs, or hit this balloon or bell as you jog by it). Do this activity at least three times a week for heart-lung improvement.

4. **Musical Games**
   -- adapt traditional games whenever possible. Younger children like Ring Around the Rosy, London Bridge, Farmer in the Dell, Did you ever see a Lassie?, I'm a little Teapot, Ten Little Indians, Bensie Weensie Spider, If You're Happy and You Know it, Hickory Dickory Dock, The Noble Duke of York, Noah Works with One Hammar, Fair Rosie.
   -- try records designed for Kindergarten and first grade. Play musical chairs (use carpet squares), Freeze, Stop the Music, the Ring Game, Looby Loo, Hokey Pokey, clapping rhymes, etc.
Body Image Activities

1. **Move body parts**
   Have the child try to isolate movement and move as many different body parts as possible. Have them open and close their eyes and mouth, smile and frown, shake or wiggle limbs, swing limbs, bend and straighten different body parts. Try it in different body positions, in the chair, on the stomach, on the back, on the side.
   Helper: Before you ask a child to bend his arm, stretch it gently as straight as you can. Before you ask a child to straighten a limb, bend it gently as far as you can.

2. **Hand touching other body parts**
   Help them to touch their dominant hand to other body parts, parts of the head and face, and use direction words such as front, back, up, down, right and left.
   HELPER: if child cannot touch these parts, take a piece of ice and touch body parts for him, ask him if he can feel the ice.

3. **Trace the child**
   Have the child lie on a piece of butcher paper. Trace his whole body talking to him "now, I'm going around your foot". Hold it up for him to see. If possible have him help you draw in features, details of clothing. If not able, have him watch you do it and describe him as you do it.
   HELPER: repeat this activity with the child lying on his side, place arms and legs in different positions as you trace. Use the drawings to indicate progress in gaining range of motion.

4. **Shadow Play**
   Place a child between a light source and a wall or suspended sheet. Encourage him to move and watch himself move. If you hang a sheet (across a doorway, between two poles etc.), the rest of the class can be an audience on the other side of the sheet, the shadow only will be visible. Guess who it is.
   HELPER: Play music and let them dance or do exercises as they watch the shadows. Ask them to make animal shapes, audience can guess.

5. **Reinforcement**
   When exercises or moving to music gets old, try attaching bells or balloons to the limbs with tape or elastic. This will give the child more feedback about where his body parts' are in space.

6. **Mirror**
   In front of a mirror ask the child to explore his range of motion so he can watch himself. Have him assume different shapes (stretched, curled, wide, narrow, crooked, twisted), have him balancing in different poses (sitting, prone and facing mirror, prone looking back over shoulder, on either side, on knees, standing, walking or crawling toward) and have him move his face to show different emotions.
7. **Body Parts Prints**
   Using water paint or washable ink have the child make prints from his hands, fingers, thumbs, feet, elbows, knees, nose, chin, bottom. Temporary prints can be made with plain water on an absorbent surface.

8. **Photographs & Videotape**
   Depending on resources, take prints, slides, movies or make a video tape of the child as he participates in some of his favorite activities, indoors and outdoors. Show them to the child as soon as possible. Have the child participate in a skit if possible, show it back to him. Videotape or film participation in aquatic activities.

**AQUATIC ACTIVITIES**

1. **PAINT** with water on a wall or sidewalk outdoors.
2. **POUR** water from and into different types of containers.
3. **REACH** into containers of water and fish out objects.
4. **BLOW** through a straw into water, try different kinds of straws.
5. **SPLASH** with different body parts (hand in basin, foot in bucket).
6. **DROP** objects into water and observe if they sink or float.
7. **BLOW** at ping-pong balls, walnut shell boats, corks.
8. **MAKE BUBBLES** with commercial or soap solutions, wave rings or blow through pipes, straws, commercial bubble toys.
9. **SLIP & SLIDE** on a large plastic sheet on a grassy area, keep the plastic wet and help the child to slide and splash in different body positions. Find a depression or incline in the lawn to increase the fun or make a shallow puddle.
10. **SQUIRT** water with squirt toys, detergent bottles, rubber syringes, water filled balloons, trick rings or roses from a magic shop.
11. **BALLOONS** full of water and tied are fun to handle and throw. Use differently shaped balloons and inflatable toys.
12. **SPONGES**, cotton balls and washcloths are fun to squeeze, wring, feel, throw and catch.
13. **COLORED** water doubles the fun of all the above activities especially if using transparent containers. Use food coloring.
14. **SPRINKLERS** and showers are also fun to play in, use a fine mist nozzle on a hose on a hot day.
Go for a walk outside, down the block, to a park, or even in the school playground.

1. **LOOK** for Red things, Big things, Kinds of things (trees, cars, animals, birds), geometric shapes, people in uniforms, animal homes (spider web, bird nest, wasp nest, ant hill), things made of steel (stone, wood, glass), kinds of buildings.

2. **LISTEN** for sounds of machines, animals, people, traffic, wind, water, birds, insects. Take a tape recorder.

3. **FEEL** things that are rough, smooth, fuzzy, prickly, soft, hard, cold, hot, squishy, wet, dry, etc. Put them in the child's hand or brush them against his cheek. Have him close his eyes and feel sunshine or shade or wind on his skin. Ask him about the texture underfoot (concrete, sand, asphalt, grass, gravel, marbled). Let harmless insects crawl on the child's palm (ants, wooly bear caterpillars, daddy long-legs spider, grasshopper).

4. **SMELL** flowers, dirt, mud, crushed pine needles, crushed grass, wet sand, earth, clay, bark, herbs, garbage cans, wild garlic.

5. **TASTE** raindrops, snowflakes, flower nectar from honeysuckle or clover blossoms, edible fruits or berries.

**ART ACTIVITIES**

**FINGER PAINT WITH CHOCOLATE PUDDING**
- Be sure table is clean. Allow plenty of tasting and hold a mirror up to the child's face before you clean him up.

**COLOR TO MUSIC**
- Choose different musical selections. Have the child listen first and decide what color the music makes him think of. Then take a crayon and a large sheet of paper and have him move the crayon on the paper the way the music makes him feel like moving. Encourage dots, dashes, swirls, slashes, wavey lines, etc., in rhythm with the music. (Older, more able children may want to draw a picture, but discourage this until after free expression has been tried out.) Use at least three different kinds of music with contrast per session. Don't be afraid to repeat. Keep musical selections to 1-2 minutes, don't let the child be too careful, use paper freely, newspaper or butcher paper is fine. Suggested music: Sousa Marches, Strauss Waltzes, symphonic selections with a lot of kettle drums or chirping violins, lullabies, jazz saxophone, Tijuana Brass, bagpipes. Let the children bring music from home.

**ENGINEER**
- With toothpicks and miniature marshmallows make structures, try geodesic domes, buildings, people, animals, cars.
ADAPTING SPORTS IDEAS

Before adapting sports for the motor impaired child, think about the essence of the sport. Keep the game fun and try to do these activities during the regular sport’s season. Ask the child for ideas “How can we change this game so you can play?”

1. Kickball—you need an inflated, round ball, 4 bases, 2 teams. Eliminate outs at first, let everyone kick and circle the bases. The ball can be hit with the crutches for a kick or even thrown by a wheelchair child, pushers can help. Make it more difficult for the more able child.

2. Softball—use a batting tee, hit with a fat bat, use a small (5”) rubberball or a tennis ball, gallon milk containers can be cut into scoops and used as fielder’s gloves.

3. Soccer—use an extra large ball or a gallon milk bottle. Wheelchair people can bump it along with their feet or footrests. Contain the game with benches tipped on their sides, low balance beams or walls to edge the playing space. Have the goals extra wide and be sure to have a “goalie”. Take turns being the goalie. Each player can have his own ball and keep his own score.

4. Hockey—use brooms or pillo-polo bats. A frisbee makes a good puck as does a yarn ball, foam ball, or small box.

5. Basketball—use any ball that bounces. Make goals out of hoops, peach baskets, waste baskets, barrels, inner tubes. Tie a tether ball to a rim (without a net) for independent play by a wheelchair child.

6. Volleyball—use beach balls, balloons, foam balls, supermarket balls to hit back and forth over a net, string, or folded mat. Use a low barrier and play sitting down or on knees for kids with crutches or canes. Stretch a rope between two poles and tie a tetherball to the center for stronger players in wheelchairs.

7. Racket games—use stocking rackets or ping-pong paddles. Tie balloons or balls on a string on a tetherball pole or to a line stretched between two poles. Ping pong can be played on the floor or on a table with sides.

8. Wrestling—both girls and boys enjoy combatives of all kinds. Try wrist wrestling, thumb wrestling, turtle wrestling, Indian Leg wrestling. Look in a PE book under combatives for more ideas.

9. Bowling—use any kind of ball and almost anything that will stand up for pins. Tie a ball to a wheelchair and surround the chair with pins for the child to knock down. Skittle bowling is fun.

10. Track & Field—races on hard surfaces are easy to set up. Have short and long races with matched opponents. Use scooters for races. For the field events have frisbee throwing, tennis ball throwing, paper plates, anything. Have relays too.
11. Gymnastics--start tumbling on a wedge or put a mat on the side of a hill. Use an inner tube under a mat for a trampoline. Use an 8" wide board for a balance beam. Put two or three stunts, rolls and balances together for a routine. Use a mat over a bench for vaulting.

12. Pyramid Building--simple pyramids can be built, stress group cooperation and the triangle shape. Take polaroid pictures.

13. Handball--wall rebounding games are great. Tie a tether ball to a wheelchair and draw a target on the wall. Use tennis balls, beach balls, anything that will bounce back.

14. Recreational games--in hot weather try the more leisurely games such as croquet, horseshoes, lawn bowling (bocce), hopscotch (throw beanbags in the squares), human tic-tac-toe, jacks, shuffleboard (also for some bike riding and roller skating).
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Perceptual Motor Efficiency in Children,
and many others. Prentice-Hall.


East Lansing, Michigan, 48824.


The Best of Challenge. American Association of Health, Physical
Education and Recreation, Washington, D.C.

Recordings

Ambrose Brazelton.........................Get Fit While You Sit
                                          Snap, Clap and Tap
                                          Only Just Begun

Ella Jenkins..............................And One and Two
                                          Jambo
                                          Play Your Instruments and
                                          Make a Pretty Sound
                                          and many more.

Hap Palmer.................................Too many to list, try them.

Lou Stailman..............................Rhythmic Exercises for Children
                                          Presquare Dance Vol. 2 & 2
                                          Square Dancing for Children

Georgianna Liccione Stewart..........Music, Movement, Art
                                          Heel, Toe, Away We Go
                                          Perceptual Motor Activities Using Rhythm Instruments
                                          Fun Activities for Fine Motor Skills
                                          Fun Activities for Perceptual Motor Skills
                                          and many others.

Other useful recordings by title:
Parachute Activities
Rainy Day Record
Dancing Numerals
Dancing Words
Carpet Squares
Rhythm Stick Activities
Perceptual Motor Rhythm Games
Homemade Band
Birds, Beasts, Bugs & Little Fishes
Coordination Skills
Yoga for Children