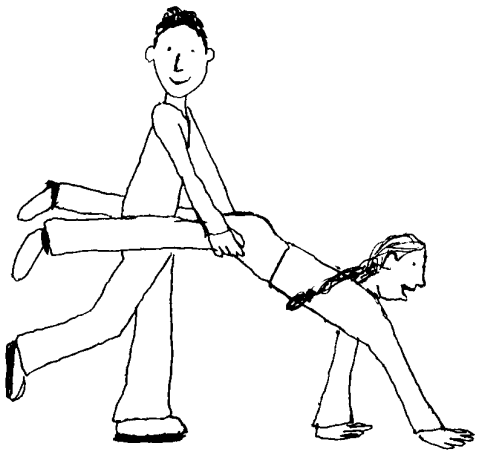
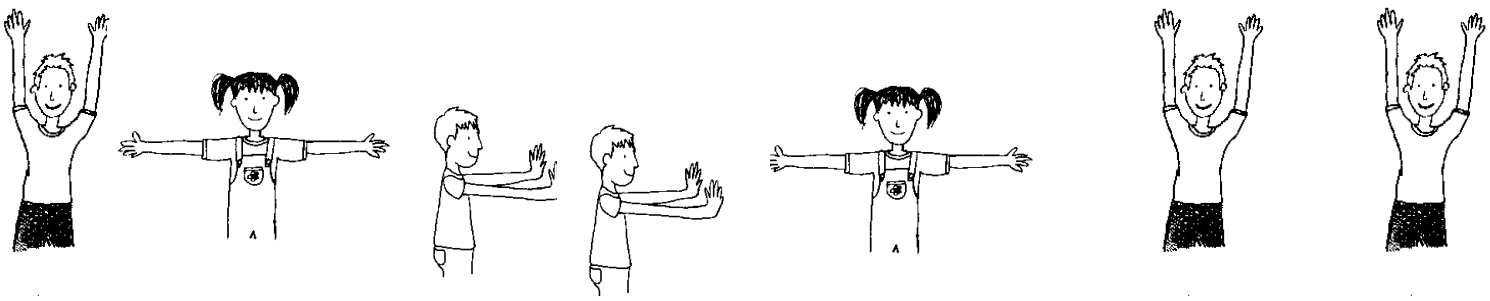
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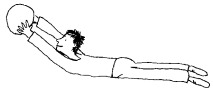
# Motor Coordination Tool Kit

## A Therapy Guide Including the Get Moving Programme



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# Developmental Co-ordination Disorder (DCD)

# Definition & Diagnostic Criteria

Developmental Co-ordination Disorder is a term used to describe:

**'An impairment or immaturity of movement'** (Dyspraxia Foundation)

**Diagnostic Criteria for Developmental Coordination Disorder**

A. The acquisition and execution of coordinated motor skills is **substantially below that expected** given the individual's chronological **age and opportunity for skill learning and use**. Difficulties are manifested as 'clumsiness' (e.g. dropping or bumping into objects) as well as slowness and inaccuracy of performance of motor skills, (e.g., catching an object, using scissors or cutlery, handwriting, riding a bike or participating in sports).
B. The motor skills deficit in Criterion A **significantly and persistently interferes with activities of daily living** appropriate to chronological age (e.g., self-care and self-maintenance) and impacts academic /school productivity, prevocational and vocational activities, leisure and play.
C. Onset of symptoms is in the early developmental period.
D. The motor skills are **not better explained by intellectual disability** (intellectual developmental disorder) or **visual impairment** and are **not attributable to a neurological condition** affecting movement (e.g. cerebral palsy, muscular dystrophy, degenerative disorder).

Diagnostic and Statistical Manual (5th edition), (DSM 5) American Psychiatric Association, (2013)

# Observable Behaviours in Children up to 5 years of age

The following are possible presenting features in pupils who may have Developmental Coordination Disorder/Dyspraxia. They are not designed to operate as a checklist as not all features may be present. Generally, several of these features will be observable.

- Very high levels of motor activity
  - Feet swinging and tapping when seated
  - Hands clapping or twisting
  - Unable to stay in one place longer than 5 minutes
- Very excitable
  - Voice loud and shrill
  - Easily distressed, temper tantrums
- Moves awkwardly
  - Constantly bumping into objects and falling
  - Associated movements, e.g. hand flapping
- Difficulties with tricycles or scooters
- Poor figure ground awareness
  - No sense of danger, jump from inappropriate heights
- May be messy eaters
  - Often spill liquid from drinking cups
  - May have difficulty with the use of cutlery and may prefer to use fingers
- Avoid constructional toys
  - Jigsaws
  - Building blocks (Lego)
- May have difficulties sleeping
- Poor fine motor skills
  - Pencil grip
  - Use of scissors
  - Immature drawings
  - Reluctances to attempt to write, draw or paint
  - Does not enjoy dressing up or playing appropriately in the home corner or Wendy house
- Limited creative play
- Isolated in peer group
  - Poor interaction with peers, prefers adult company
- Laterality still not established
  - Problems crossing midline
  - Dominant hand still not established
- Articulation difficulties
- Sensitive to sensory stimulation
  - High levels of noise
  - Can be irritated by clothing
- Limited response to verbal instructions
  - Slower response time
  - Problems with comprehension
- Limited concentration to tasks
- Lack of imaginative play

# Observable Behaviours – Primary School

- Immature drawing – includes copying skills.
- Handwriting difficulties- problems with legibility, fluency, poor letter formations.
- Presentation of work can be untidy and poorly spaced.
- Pace of work may be slow.
- Appears uncoordinated in PE and on the playground.
- Difficulty cutting up food using cutlery.
- Difficulty using scissors/ ruler.
- May have poor seating position and poor posture may develop.
- Poor short term memory with weak transfer into long term memory.
- Poor attention and concentration.
- Difficulty sitting still (fidgeting).
- Problems adapting to a more structured school routine.
- May have difficulty in remembering up to 2 or 3 instructions.
- Slow at dressing, difficulties with shoe laces and other fastenings.
- Can be hypersensitive, emotional or passive.
- Poor interaction with peers, prefers adult/ younger children's company.
- Sleeping difficulties – may wake during the night and report nightmares.

# Observable Behaviours – Secondary School

- Gross motor skills have generally matured and clumsiness may be less evident.
- Handwriting difficulties continue to be present and can be more noticeable due to curriculum demands.
- Underdeveloped social skills can lead to social isolation.
- May have behaviour difficulties due to frustration and low self-esteem.
- Some children may show evidence of psychiatric disorders.
- Some pupils may appear to have difficulty answering simple questions even though they know the answers. This is due to slow processing of information.
- May show evidence of obsessions or routines.
- Low self-esteem and low self-expectation.
- Difficulties with the organisation of equipment.
- Orientation, route finding and navigating their way around a large school building may be problematic.
- Lack of awareness of road safety.
- Time management.
- Fatigue – due to the energy used and concentration required to manage school day.

# Get Moving Programme

## What is the Get Moving Programme?

Get Moving is a Physiotherapy and Occupational Therapy school based exercise programme focusing on improving motor co-ordination i.e. body perception, balance, laterality, spatial awareness, etc.

It is aimed at children with motor coordination difficulties such as developmental co-ordination disorder (DCD) and other children school have identified with similar problems. Some of the problems they may have include:

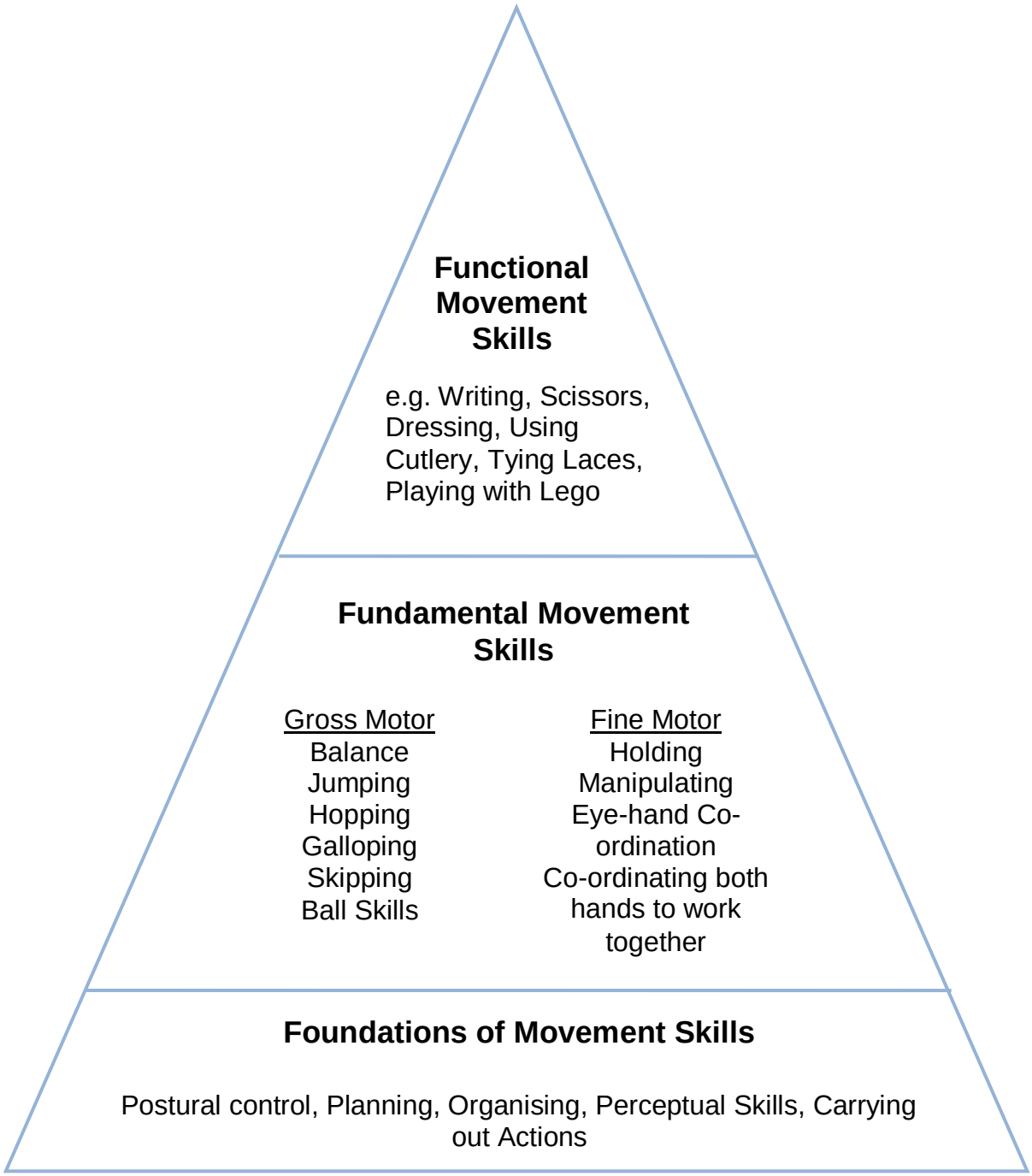
- Messy eating and drinking.
- Tendency to be a loner.
- Slow or poor at dressing.
- Poor concentration.
- May be disruptive in class and clowns around.
- Poor short term memory.
- Difficulty carrying out verbal activities.
- Associated speech and language problems.
- History of late milestones e.g. sitting or walking.
- Frequent falls.
- Poor at ball activities e.g. catching, throwing, kicking.
- Cannot stand on one leg, hop or jump.
- Bumps into furniture.
- Dislikes games, apparatus and playing outside.
- Poor writing and drawing abilities e.g. poor pencil grip, immature drawing.

The programme is based on the theory that children require experience to develop skills and some children with DCD lack the basic foundation skills to build upon, e.g. they are unable to identify where their bodies are positioned, therefore they find sitting still on a chair virtually impossible.

The pre-requisites required for normal movement are:

- Symmetrical integration.
- Bilateral integration.
- Body perception and proprioception.
- Short term visual and verbal memory.
- Motor planning.
- Eye-hand co-ordination.
- Directional awareness.
- Shoulder control.
- Pelvic control.
- Spatial awareness.
- Midline crossing.

# Sequence for development of movement skills




The Get Moving Programme provides these children with the foundation skills required to progress onto more co-ordinated movements.

The group progresses through six stages (School Get Moving) or four stages (Nursery Get Moving), with the exercises steadily getting more challenging. Children only move fully onto the next stage once all exercises of the current stage have been mastered. A mixture of the exercises can be used if there are children with different abilities in the group.

If you wish to book training then please contact either Paediatric Physiotherapy or Occupational Therapy (see page 40/41).

# Get Moving Programme School Age

A joint Physiotherapy and Occupational Therapy devised exercise programme in school to improve motor coordination, i.e. body perception, balance, laterality, spatial awareness, etc.

| | |
|---|---|
| **Setting:** | Large Room (uncluttered)/Hall |
| **Children to Take Part:** | 6 recommended when starting the group – identified as having coordination problems |
| **Age:** | Can have a mixture of primary age children |
| **Daily Sessions** | 10 minutes |
| **Attendance:** | Regular attendance required |
| **Staffing:** | One adult with direction of Occupational Therapy/ Physiotherapy to give initial training. |
| **Clothing:** | School uniform and pumps |
| **Equipment:** | 6 mats if room not carpeted<br>6 bean bags<br>6 hoops<br>6 skipping ropes<br>6 Balls (that can bounce) |

The group progresses through six stages, with the exercises steadily getting more challenging. Children only move fully onto the next stage once all exercises of the current stage have been mastered.

A mixture of the exercises can be used if there are children with different abilities in the group.

# Stage 1

**1. Bridging**

Lying on back, bend both knees and keep feet together. Keep both arms by sides. Lift bottom off the floor to form a straight line. Repeat 5 times.




**2. Angels in the Snow** (instructor to demonstrate first)

Stay lying on back. Slowly move arms along floor until hands touch above head. Keep arms straight and touching floor all the time. Slowly bring arms down again to sides.





**3. Listen and Do**

Still on back, instruct them to lift either arm or leg in the air using the terms Left and Right and then a combination of Left and Right.




**4. Stretching**

Roll over onto tummy. Lift one arm at a time and hold for 3 seconds. Instructor to count time out loud. Repeat 5 times.
Try for one lift with both arms and head lifting up.




**5. Log Rolling**

Aim for 5 log rolls along length of room or along 2 mats. Keep arms and legs straight with arms above head. Repeat in opposite direction.
Progress/change to holding a bean bag above head while rolling.
Progress/change to rolling right or roll to left on command.

**6. Tigers**

Get onto hands and knees without collapsing on the floor (may need verbal/visual clues).
Maintain position for 10 seconds.
Lift either arm forward and then either leg upon instruction and hold for 3 seconds.

*Alternative suggestions* –
High kneeling – throwing bean bag in pairs, maintaining position.
Bear walking – along length of room.
Any other animal walk – e.g. elephant, kangaroo.

**7. Standing Up**

From all fours instruct children to get into high kneeling and then half kneeling and then stand.





**8. Marching**

March on the spot, bring knees up with alternate legs.

*Alternative suggestions* –
Jump with legs apart and together.
Walking backwards.

**9. Cool Down**

Curl up on mat or on floor like a block of ice.
Get as small as possible and gradually relax and stretch out like an ice cube melting.

Give instructions to breathe in and out deeply and slowly while relaxing.

Stage 2

**1. Bridging**

Lying on back, bend both knees and keep feet together. Keep arms by sides.
Lift bottom off floor to form a straight line. Repeat 5 times.

**2. Angels in the Snow** (instructor to demonstrate first)

As in stage 1, but this time additionally move legs apart and together, keeping them straight and touching the floor.

**3. Stretching**

Lie on tummy.
Stretch both arms out in front holding a bean bag. Repeat 5 times.



**4. Tigers**

Get on all fours, maintain position and then instruct them to lift opposite arm and leg using the terms Left and Right. Hold for 5 seconds.



Alternative suggestions –

- Bunny hops over a line/skipping rope on floor.
- Walking along a line, heel-toe gait, forwards.
- Walking backwards along a line.
- Kneel walking forwards.

**5. Standing Up**

From all fours instruct children to get into high kneeling, then half kneeling and then stand.

**6. Hoops**

Each child has a hoop in front of them. Instruct them to step into and out of hoop.
Walk around hoop.
Start in the hoop holding a bean bag, take two steps out and then throw bean bag into hoop.
Step into hoop and instruct them to step in and out in different directions, e.g. sideways, forwards, backwards.

**7. Balancing**

Put bean bag on head.

Give directions to tilt forwards, backwards, or sideways so that bean bag lands on the floor.

Alternative suggestions –

- Throw bean bag from one hand to the other in standing.
- Figure of 8 pattern with bean bag behind their knees.

**8. Sleeping Lions**

Children lie on the floor as still as possible and try not to move when instructor touches them. Encourage deep breathing.

# Stage 3

**1. Bridging**

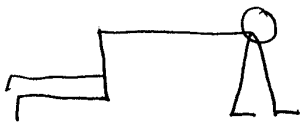
Give each child a bean bag.
As in stages 1 and 2, but this time pass bean bag under the bridge from one hand to another.

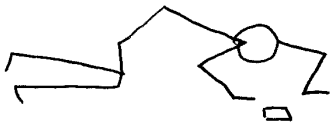
**2. Stretching**

Lie on tummy. As in stage 2, but this time hold a ball.

**3. Tigers**

Put bean bag in front of each child. Get on all 4s, maintain position. Lower head to touch bean bag with nose.
Repeat 5 times.





**4. Standing Up**

From all fours, instruct children to get into high kneeling, then half kneeling and then stand.

**5. Bean Bags**

Children stand in pairs approximately 2m apart. With a bean bag between them, throw and catch. Repeat 5 times.

Alternative suggestions

- Stand still holding a bean bag. Instruct children to pass bean bag around their neck from one hand to the other. Then around their back and then around their legs. Use opposite direction as well.
- Still standing, lift knee up and touch with opposite elbow. Repeat on other side. 5 times each side.

**6. Walking Around Obstacles**

Make a course so that there are various changes of direction, using the bean bags and the skipping rope. Let each child do the course on their own. Demonstrate the course to them first.
Alternative suggestions

- Simon says
- Follow the leader. Teacher can instruct first and then children can have a go.

**7. Jumping**

Jumping over a bean bag/ bean bags in a row.
Alternative suggestions

- Jumping over a skipping rope (still and shaken).
- Bunny hops.
- Star jumps.

**8. Cool Down**

Ask children to make shapes in the air using their whole body. Maintain position for 5 seconds and give instructions to breathe in deeply and out slowly.

# Stage 4

**1. Press ups on the wall**

Make sure arms are shoulder height, elbows straight and fingers pointed upwards. Feet together, legs straight and inclined to wall. Encourage them to touch the wall with their noses. Repeat 10 times.





**2. Standing**

Marching on the spot.
March on the spot and bring left hand to right knee and right hand to left knee.

**3. Stork balance**

Aim for 5 seconds and build up to 10.
Standing on one leg with hands on hips.

**4. Bean bags**

- Throw bean bag from left to right hand and vice versa.
- Throw up in the air and catch.
- Throw up in the air and clap and then catch.

**5. Crab walking**

Crab walk slowly around the room.
(Maybe start off with a short distance and build up to around the room).



**6. Hoops with a partner**

One child stands in the hoop and other child stands outside of the hoop. Both children hold their hands up to make contact together and push through their hands to try and make the child in the hoop move. Then change over.

**7. Drawing in the air**

Standing still using their writing hand, hold thumb up in the air with a clenched hand. Slowly watch thumb and draw a straight line left to right, then a circle anticlockwise and build up to a figure of eight pattern (starting clockwise).

**8. Cool down**

Standing still. Ask the children to go like a floppy scarecrow and then straighten up. Repeat x 3 with nice slow deep breaths.

## Stage 5

1. **Nose dips**
   Children get into all fours position. Pretending to be a cat, they bend their elbows and touch their noses to the floor to ‘drink milk’. Repeat ten times.

2. **Walking on a line – heel to toe walking, arms to balance x 2**
   Ask the children to walk along a line heel to toe walking using their arms to balance. Repeat twice.

3. **Obstacle course**
   Have the children negotiate their way around cones, beanbags, hoops etc. Incorporate over, under, around etc. to increase difficulty.

4. **Star jumps**
   Begin with just arms, then just legs, and if able, move onto the full star. Repeat 10 times.

5. **Cool down**
   Lying on the floor on their back. Stretch out as far as possible. Then curl up into a ball. Repeat x 3.

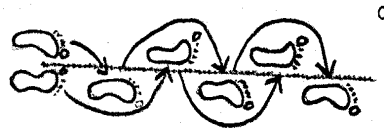
# Stage 6

1. **Crab walk**
   Crab walking slowly around the room. Build up to weaving in and out of obstacles.

2. **Skipping with hoops**
   Using plastic hoops, encourage the children to skip along the length of the room.

3. **Bouncing balls**
   Bounce balls on the spot using one hand initially, moving onto alternating hands.

4. **Zigzag walking**
   Stand at end of rope, place right foot to left side of rope, left foot to ride side of rope. Move right foot next in front of left foot and over to left side of rope.





5. **Cool down**
   Grow from a seed into a tree/flower – stretching arms up to the sky.

# Get Moving Nursery Programme

A joint Physiotherapy and Occupational Therapy devised exercise programme in nursery to improve motor coordination, i.e. body perception, balance, laterality, spatial awareness, etc. This programme is aimed at providing experience as a preventative measure; therefore it is appropriate for all nursery age children.

| | |
|---|---|
| **Setting:** | Uncluttered area |
| **Children to Take Part:** | Can be all or part of class |
| **Age:** | 3-5 years |
| **Daily Sessions** | 10 minutes |
| **Staffing:** | One adult with direction of Occupational Therapy/ Physiotherapy to give initial training. |
| **Clothing:** | School uniform and pumps |
| **Equipment:** | 1 mat per child (if not carpeted)<br>Bubbles<br>Paint brushes<br>Variety of balls, balloons |

The group progresses through four stages, with the exercises steadily getting more challenging. Children only move fully onto the next stage once all exercises of the current stage have been mastered.

A mixture of the exercises can be used if there are children with different abilities in the group.

# Stage 1

**1. Marching**

March on the spot bringing the knees up (using legs only).
Sing the nursery rhyme 'Marching in Our Wellingtons'.

**Marching in our Wellingtons**
**Step, step, step**
**Marching in our Wellingtons**
**We won't get wet**
**Splashing through the puddles**
**In the rain, rain, rain**
**Splashing through the puddles**
**Then run home again**

**2. Bridging**

Lying on back, bend both knees and keep feet together. Keep both arms by sides and lift the bottom off the floor. Repeat 5 times.




**3. Angels in the Snow** (instructor to demonstrate first)

Stay lying on back. Slowly move arms along floor until hands touch above head. Keep arms straight and touching floor all the time. Slowly bring arms down again to sides. Repeat 5 times.





**4. Stretching**

Roll over onto tummy. Lift one arm at a time and hold for 3 seconds. Instructor to count time out loud. Repeat 5 times.



**5. Tigers**

Get onto hands and knees (four point kneeling) without collapsing on the floor. Try and maintain this position keeping still. See who can roar like a tiger!

**6. Sitting and Singing**

Sit crossed legged and encourage children to sit up tall. Sing hand action songs/ nursery rhymes e.g. five little peas, two fat gentlemen, baby shark, incy wincy spider, twinkle twinkle little star etc.

**7. Cool Down**

Standing still, ask child to go like a floppy scarecrow and then straighten up. Repeat 3 times with slow deep breaths.

# Stage 2

**1. Marching**

March on the spot bringing the knees up (using both legs and arms).
Sing the nursery rhyme 'The Grand Old Duke of York'.

**The Grand old Duke of York he had ten thousand men**
**He marched them up to the top of the hill**
**And he marched them down again.**
**When they were up, they were up**
**And when they were down, they were down**
**And when they were only halfway up**
**They were neither up nor down.**

**2. Bridging**

Lying on back, bend both knees and keep feet together. Keep both arms by sides and lift the bottom off the floor. Repeat 5 times.




**3. Angels in the Snow** (instructor to demonstrate first)

Stay lying on back. Slowly move arms along floor until hands touch above head. Keep arms straight and touching floor all the time. Slowly bring arms down again to sides. Repeat 5 times.





**4. Tall as a Tree**

Children make movements to the words in the rhyme and hold each movement for 5 seconds.
Tall as a tree (stretch up tall)
Wide as a house (stretch out arms and legs wide)
Thin as a pin, (stand still with arms down by sides)
Small as a mouse (curl up into a ball on the floor)

**5. Tigers**

Get onto hands and knees (four point kneeling) and move around. See who can roar like a tiger!

**6. Standing**

From all fours instruct children to get into high kneeling, then half kneeling and then stand.





**7. Cool Down** (Sleeping Lions)

Children lie on the floor as still as possible and try not to move when instructor touches them. Encourage slow deep breathing.

# Stage 3

1. **Standing Singing**
   Sing ‘If you’re happy and you know it: clap your hands, tap your head, stomp your feet, touch your knees, touch your ears’ etc.

2. **Listen and Do**
   Lying on back, instruct children to lift either arm or leg in the air using the terms left and right.



3. **Stretching**
   Roll over onto tummy. Lift one arm at a time and hold for 3 seconds. Instructor to count time out loud. Repeat 5 times.



4. **Bursting Bubbles**
   In high kneeling, burst bubbles by clapping them and progress onto popping them using index finger.

5. **Standing**
   From high kneeling, instruct children to get into half kneeling and then to stand.





6. **Body Game**
   Divide children into pairs. Adult issues instructions children must follow e.g. touch hand to hand, foot to foot, hip to hip, back to back etc.

7. **Cool Down**
   Curl up on the floor into a ball. Pretend you are a seed and slowly ‘grow’ into a flower. Then stretch. Encourage slow deep breathing.

## Stage 4

1. **Standing Singing**
   Standing up, sing ‘head, shoulders, knees and toes’ or ‘hokey cokey’.

2. **Listen and Do**
   Lying on back, instruct children to lift a combination of either their left /right arm and left/ right leg in the air.



3. **Body Painting**
   Provide the children with large (dry!) paint brushes. They must find something blue to pretend to dip their brushes in e.g. a blue jumper, and then paint their arms. Include more complicated body parts e.g. ankles, elbows, knees, wrists, thumbs and pointy fingers.

4. **Bears**
   Get onto hands and feet and push the bottom up in the air. Maintain position for 10 seconds.

5. **Log Rolling**
   Aim for 5 log rolls along length of room or along 2 mats. Keep arms and legs straight with arms above head. Repeat in opposite direction.
   Progress/change to holding a bean bag above head while rolling.
   Progress/change to rolling right or roll to left on command.

6. **Cat Drinking**
   Get onto hands and knees and pretend to be a cat drinking from a bowl on the floor, bend the elbows to touch the chin on the floor. Then straighten the arms again. Repeat 5 times.

7. **Cool Down**
   Curl up like a block of ice.
   Get as small as possible and gradually relax and stretch out like an ice cube melting.
   Encourage slow deep breathing.

# Areas of Difficulty for Children with Developmental Coordination Disorder

1. **Reduced Shoulder Control**
   This relates to the muscle strength and joint laxity around the shoulder girdle. It is an important factor for hand function and a pre-requisite for writing.

2. **Reduced Pelvic Control**
   This relates to the muscle strength and joint laxity around the hips and is required for activities such as standing on 1 leg, hopping and kicking a ball.
   Together with shoulder and trunk control it has an important role in balancing.

3. **Poor Active Trunk Extension**
   These children are often in very flexed postures and find it difficult to stretch out and maintain an upright position against gravity.

4. **Reduced Eye-Hand Coordination**
   The ability of the hands and eyes to work together is needed in activities such as catching and throwing balls and writing.

5. **Reduced Eye-Foot Co-ordination**
   The ability of feet and eyes to work together is required for kicking, walking around objects on the floor as well as uneven surfaces and stairs.

6. **Poor Midline Crossing**
   The ability to cross a hand one side of the body to another is necessary for such activities as writing.

7. **Poor Directional Awareness**
   The ability to move in different directions. This is related to the development of body perception, symmetrical and bilateral integration.

8. **Reduced Spatial Awareness**
   The ability of the child to judge distances and direction of her/himself in relation to other objects. Spatial awareness is related to body perception and directional sense.

9. **Poor Body Perception and Proprioception**
   The ability to know where parts of the body are in space.

10. **Poor Gross Motor Sequencing**
    This is the ability to carry out a verbal/visual sequence of activities.

11. **Poor Motor Planning**
    The ability to carry out a functional activity in an organised way.

# General Classroom Advice for Children with Developmental Coordination Disorder

- Give clear, short instructions.
- Break the task down into bite sized pieces.
- Use visual and verbal clues to reinforce understanding of activity.
- Give extra time to consolidate new learnt skill.
- Allow for repetition of the skill.
- Be patient.
- Allow variability.
- Use rewards if possible, i.e. house points, stickers, certificates, etc.
- A written list of instructions with a marker pen can assist a child who can read.
- Give praise for effort, even if they don't succeed.
- In PE, be creative with the equipment to make the task easier.
- 'Talk back' technique may be useful

  Child repeats back the instruction and says –
  - What/how he is going to do it
  - What he needs
  - Where he is going to work
- Whiteboard and other copying should be minimised.
- Ready prepared worksheets are invaluable.
- Encourage child to plan the day the night before, e.g. checking that books and items needed for school are in his/her bag.
- Encourage child to carry a written timetable with him/her to refer to.
- Keep belongings in a particular place. Make a base so that the child only has to remember and find one place to retrieve; books pencils, PE kits, etc.
- A school diary is useful for recording homework

# Motor Skills Activities

**General Advice**

If the Get Moving programme is not functioning in your school, then the following activity advice can be used for children that you have identified as having problems with co-ordination, spatial awareness and planning of movements.

Other children can use the activities as well unless they have a specific medical problem e.g. Cerebral Palsy, a neuromuscular disorder, muscular dystrophy, orthopaedic problems etc. In these cases advice needs to be sought from the therapists involved.

The activities can be used as a warm up session before PE or as a separate individual / group session.

It is important to use the general advice information given previously in this tool kit in conjunction with these activities.

Make the activity hard enough to challenge and easy enough to achieve, i.e. “the just right challenge”.

**Fine Motor Activities**

To develop manipulation skills and fluency of movements:

- Pinch playdough and make small balls by rolling between thumb and index finger.
- Make small balls with tissue paper or foil sweet wrappers by rolling between thumb and index finger. The balls can be used to play tabletop ‘football’, where two players sit opposite each other and try to flick the ball off the opposite end of the table and the opposing player tries to stop it.
- Table Top Games, e.g. connect 4, snakes and ladders etc.
- Pick up playing cards, turning pages of a book
- Finger puppets
- Help peg out the washing
- Piano playing or pretend to 'play the piano' with both hands together.
- Clothes pegs – place on the side of a box and remove using one hand at a time or place on the side of a box or cardboard face whilst holding with the other hand. Use the pegs as hair.



- Take small pegs out of peg board, gathering into the palm of one hand and remove without using other hand, table or body to help. Do the same gathering up small beads or dried peas/chickpeas.
- Place small pegs into a board manipulating the peg from the palm of hand to the finger tips. Use only one hand at a time and start with just one peg, try with more if able.

- Using small beads, dried peas or chickpeas, time how quickly ten can be moved one at a time from a dish into a cup.
- Practice the rubber band finger tangle. Wind a thin, long rubber band around the fingers and thumb as shown and ask child to escape without using other hand, table, body etc. to help.



- Using rubber bands stretch between thumb and index finger and place over nails in a board or around small boxes/containers.



- Place the end of a crepe bandage or roll of paper underneath the wrist and gather up the bandage/paper into the hand. You could place small objects/toys on the bandage for them to gather in or draw pictures on the paper to make it more fun!



**Bilateral Activities**

Activities to improve using both hands together:

- Clapping games or rhymes
- Pretend driving the car with an imaginary steering wheel arms outstretched.
- Unwrap sweets, pass the parcel, etc.
- Scissor skills – snipping at edges of card working up to cutting across card, along lines or from hole to hole (made with hole punch) and then cutting out simple forms and pictures. Grade the paper, starting with card progressing to more flimsy paper
- Construction toys, i.e. duplo, lego, play mobile people, Octons, Constructor Straw, sticklebricks, etc.
- Sewing or knitting
- Practice using a knife and fork to cut playdough or plasticine.

**Gross Motor Activities**
Activities to develop spatial awareness, coordination and planning of movements.

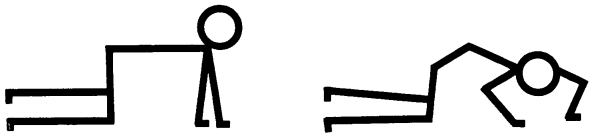
**1. Bridging**
Lying on back with both knees bent and feet on ground, slowly lift up bottom off the floor without swaying.

Repeat x 5 to start, Build up to x 20.



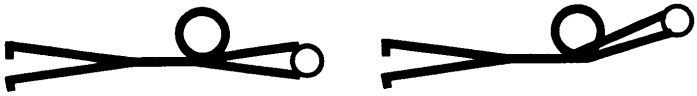
**2. Half Press Ups**
On hands and knees on the floor, slowly lower nose to the floor, keeping arms straight. Hold for a few seconds and then slowly lift up until arms are straight.

Repeat x 5 to start, build up to x 20.



**3. Trunk Extension**
Lying on stomach, holding a ball in two hands, slowly lift it up above your head and then return to floor.

Repeat x 5 to start, build up to x 20.

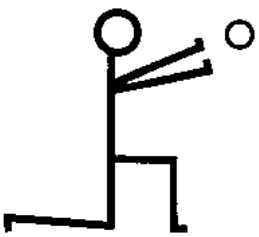


**4. Four Point Kneeling**
On hands and knees, lift up opposite arm and leg and hold for a few seconds.

Repeat x 5 each side; build up to x 10 each side.



**5. Half Kneeling**
In half kneeling, practice throwing and catching using balloon, koosh ball, soft ball, bean bag, football appropriate to skill level of child.



**6. Standing**

Stand without support and slowly roll a ball under one leg. Repeat with other leg. Roll clockwise and anti-clockwise.



**Additional suggested activities:**

- Stepping stones game – place a path of hoops scattered on floor, child jumps from one to another without touching hoops. Vary the game by asking the child to jump into named coloured hoops.
- Rope games
  - Place a long rope on the floor in a pattern in which the rope crosses itself often. Your child walks along the rope, jumping over each crossing point.
  - Lay rope out and step either side of rope crossing one leg over the other.
  - Two people hold rope, child jumps over rope as it 'snakes' on the ground.
- Play Simon says or follow the leader type game, having child imitate postures, e.g. standing including bending at waist forwards, backwards, sideways, stand on toes, on heels, swinging arms etc.
- Obstacle courses – move under, around, behind, over obstacles.
- Throwing and Catching Games. A balloon, knotted skipping rope or bean bag is easier to catch than a ball. Encourage child to catch with two hands together. Progress to smaller ball with the child throwing a ball up in the air and catching, progress to walking along throwing and catching or clapping hands before catching. Also throwing and bouncing a ball against a wall, throwing at targets or knocking down targets, e.g. skittles.
- Bat and ball games.
- Animal walks e.g.
  - Bunny hops- crouch down, with hands at shoulder width apart. Kick feet in the air, trying to keep them up for as long as possible.
  - Crab walks- get into position by sitting on the floor with hands on floor by sides. Push up bottom and 'walk' with hands and feet forwards and backwards. See how far they can go without bottom touching the floor.
  - Bear Walks- walk along with just hands and feet on the floor and bottom up in the air.

# Handwriting Activities

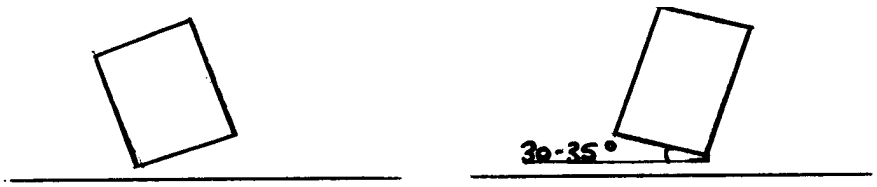
## General Seating and Posture Advice

Sitting Position - This is very important for children with handwriting difficulties.

- Sit with bottom to back of chair
- Ensure child's feet are flat on the floor. A footrest can be used if necessary (Occupational Therapy can provide information on their availability).
- Table height should be at child's elbow height or slightly higher when child is sat down

Position of Paper

- Paper or activities should be placed towards the middle of the desk so that child can rest their forearms fully on the table. This is particularly important for graphic, writing and scissor skills
- Angle paper slightly to left if right handed and to right if left handed:




RIGHT HANDED LEFT HANDED

Work Surfaces

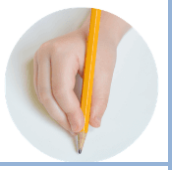
- Some pupils with visual spatial difficulties or postural difficulties work more effectively at an angled or vertical surface rather than a horizontal table top. The angled boards are available for purchase from a variety of sources (Occupational Therapy can provide information on their availability).
- Table tops need to be plain, if needed, this can be achieved by covering the table top with a sheet of off-white card or paper, firmly secured. (Do not use bright white paper as this can cause reflection problems)

Writing Implements

A variety of writing implements should be tried and the most effective used.
Often a pencil or fibre tip pen is most useful for children with motor problems because they provide a slightly higher resistance than some other pens.

Encourage a good pencil grasp!

**Developmental Stages of Handwriting**

| | | |
|---|---|---|
| *12-18 months* | • palmar supinate grasp |  |
| *2 – 3 years* | • digital pronate grasp |  |
| *3 – 4 years* | • static tripod grasp<br>• whole arm movement therefore static grasp |  |
| *4 – 6 years* | • static or dynamic/ mature tripod grasp<br>• movements more distal (from the fingers) |  |

**Hand Preference**
Shown at 3 – 5 years

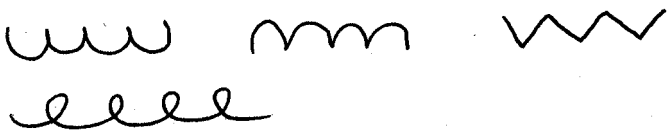
**Hand Dominance**
Established at 5 – 7 years

Use a pencil grip (Occupational Therapy can provide information on their availability) if your child is unable to achieve a tripod grasp. Use of short crayons, chalk or pencils will also encourage this grasp.

**Activities to Improve Handwriting**
Your child may lack isolated finger movements and refined manipulative skills, and so have poor control over their pencil. Practice activities, which increase awareness of muscle and joints in their fingers, e.g. poking playdough, pinching playdough and tapping fingers onto a surface

- To improve pencil control – dot to dots, track around mazes, colouring

- Writing patterns are useful to 'warm up' before handwriting e.g.



- Start with easy letters:- l o i c, progress to more complex letters and diagonals. Always use the correct letter formations, the school or nursery can provide this information.

**Sensory Approach to Handwriting**

Use multi-sensory teaching techniques to enhance the learning process i.e.

*Visual Media*

- Writing/drawing on aluminium foil
- Roll 'n' write letter formation activity (from LDA).

*Tactile Media*

- Drawing/writing on sand paper, soft playdough, cornflour and water mix, shaving foam, in sand (with index finger)
- Draw around shape/objects and cut out
- Use tactile (different textured) letters e.g. sandpaper, sponge, corrugated card, furry material. Trace over with finger.

*Olfactory Media* - incorporates the use of smell. The area in the brain where the sense of smell is received is next door to memory

- Add a few drops of scented oil to paints

*Proprioceptive Media* - stimulation of joint and muscle sensors.

- Use a scarf to make circles/letter shapes in the air
- Weighted writing tools
- Squeeze water from a washing up bottle to form letters – OUTSIDE!
- Write large letters to start with (on blackboard with chalk, paper or in the air)

*Vestibular Media* - Use of sense of movement/balance

- Walk on curved/diagonal lines/geometric shapes
- Form letters with ropes and walk along

**Setting out work on a page –**

Where difficulties impact on setting out work on page, visual prompts regarding where to start may be needed e.g.

- Dot /smiley face at top for title and again where writing should start.
- Green dot to indicate start and red dot for finish (can also be used to assist with forming letters correctly)

Where spacing between words is affected:

- Use squared paper for writing and colour squares between words to highlight spaces.
- Ask child when checking work to use a highlighter to demonstrate his understanding of where spaces should be.
- Use 'finger' or lolly stick as a spacer. Alternatively make a 'space man' – brightly coloured strip of paper with a face drawn on it.

Make the activity hard enough to challenge and easy enough to achieve, i.e. "the just right challenge".

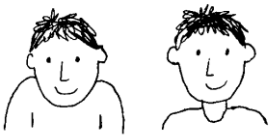
# Handwriting Warm Up Exercises

Children with handwriting problems often experience difficulty with fine finger movements and have poor posture. A short desk based set of hand and arms activities before every handwriting session in the classroom can be helpful. Five minutes is quite enough- daily if possible.

Use your own ideas to vary and enhance the list if you like.

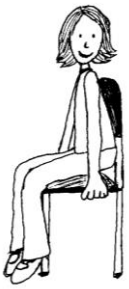
## Shoulder Shrug

Lift shoulders up to touch your ears. Hold for 3 seconds, and then relax. Repeat this 5 times then switch to pushing your shoulder down and holding for 3 seconds. Repeat 5 times.



## Chair Push Ups

Sit on a chair with your feet on the floor and your bottom at the back of the seat. Place your hands on the seat and push down until your bottom lifts up! Repeat.



## Push Palms

Place both hands together, palms touching with elbows out to the side and push together. You should feel a nice stretch in your arms.



## Pull Hands

Hook fingers together, with elbows out to the side. Pull on hands and hold for 5seconds. Repeat.



## Hug!

Wrap your arms around yourself and give yourself a big hug!



## Shake Hands

Shake your hands! First to the front, then to the left, to the right, up above your head and then relax.



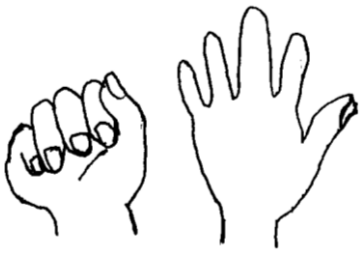
## Creepy Crawlies

Place your hands on the desk. Now make your fingers wiggle like creepy crawlies! First to the front, then to the left, to the right, up above your head and then relax.



## Shooting Stars

Make fists with both hands and then spread fingers wide like shooting stars. Repeat this 10 times.



## Stomp!

Sitting down, stomp your feet and wave your arms up in the air. You can also shout ‘na na naaaa’ whist waving and stomping. A Note to teachers – this is totally in your control. It will get the children to sit correctly and the shouting lets them release energy. When you tell them to stop stomping they should have excellent sitting posture and be ready for writing. Have them do this a few times a day.



# Visual Perception Activities

**General Advice**
Make the activity hard enough to challenge and easy enough to achieve, i.e. 'the just right challenge'.

Visual perception is the ability to interpret and give meaning to what is seen. Below are some activity ideas to develop these skills:

- Sorting and matching games, e.g. snap, dominoes, sorting by colours or size, pairing up socks
- Spot the difference games
- Sequence picture cards to tell a story "What happens next?"
- Word searches
- Books such as 'Where's Wally?'
- Brainy Blocks, Mr. Genius (Spears Games) or Tangrams (making patterns/pictures with set of shapes e.g. squares, triangles).
- Jigsaws, differentiating corner and edge pieces, and then completing the middle.
- Construction toys e.g. lego, knex, meccano, construct o straw
- Junk modelling (e.g. using old washing up bottles, cereal packets to make models).
- Connect 4

Where difficulties impact on setting out work on page, visual prompts regarding where to start may be needed e.g.
- Dot /smiley face at top for title and again where writing should start.
- Green dot to indicate start and red dot for finish (can also be used to assist with forming letters correctly)

Where spacing between words is affected:
- Use squared paper for writing and colour squares between words to highlight spaces.
- Ask child when checking work to use a highlighter to demonstrate his understanding of where spaces should be.
- Use 'finger' or lolly stick as a spacer. Alternatively make a 'space man' – brightly coloured strip of paper with a face drawn on it.

**Visual Memory**
Some activities/games to play may include:
- Place several items on a tray. Encourage the child to look and remember. Remove one item whilst the child is not looking. The child then looks back at the tray and tries to recall the missing object
- Place several objects on a tray. Encourage the child to look and remember all of the objects. Cover the tray. The child then recalls as many objects as they can.
- Pairs with picture/playing cards – have cards face down; take it in turns to turn over 2 cards trying to make a pair. Start with smaller number of cards and gradually increase as child improves to make the activity more difficult.

# Pre School Children Coordination Activities

**General Advice**
Make the activity hard enough to challenge and easy enough to achieve, i.e. 'the just right challenge'.

**Fine Motor Activities**
Develop isolation of index (pointing) finger and thumb

- Sing hand rhymes that encourage index finger or thumbs, e.g. 'Peter pointer, Tommy thumb where are you' '2 little dicky birds'
- Poke finger into playdoh, plastercine or sand to make holes or draw lines or shapes
- Put items on and off finger and thumbs, loose fitting ribbon, bands, discs, hoola hoops, etc.
- Finger painting, finger puppets, single press toys, pop up toys, pointing to pictures
- Pop bubbles

Develop a pincer grasp between the tips of the index finger and thumb

- Put pegs into a pegboard or remove and replace small lift out puzzle pieces
- Pinch playdoh or plastercine
- Eat raisins, 100's and 1000's or chocolate buttons, picking up one at a time. These can be halved or quartered.
- Turn pages over or pick up individual cards
- Insert puzzles with small knob
- Threading games
- Posting games e.g. posting coins or buttons
- Hand puppets. In particular those which require the use of pincer to operate the mouth

**Bilateral (two handed) Activities**

- Play clapping games and rhymes
- Play threading games. Start with large beads/discs onto a stiff lace or wooden pole or thread cotton reels onto washing line. Progress to smaller beads onto an ordinary lace. Progress to racing how fast can you do 10/20 beads.
- Unwrap sweets or presents, play pass the parcel, etc.
- Scissor skills – snip at edges of card working up to cutting across card, along lines or from hole to hole (made with hole punch) and then cutting out simple forms and pictures. Grade the paper, starting with card progressing to more flimsy paper.
- Construction toys, i.e. duplo, lego, play mobile people, Octons, Constructor Straw, sticklebricks, etc.

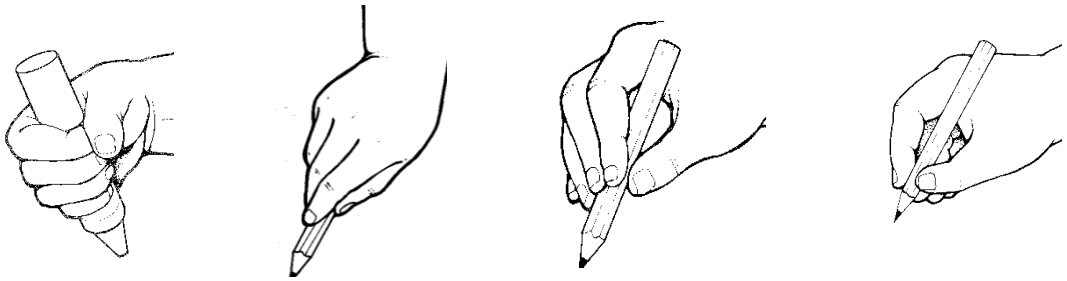
**Wrist and Shoulder Stability Activities**

- Knead and roll bread or pastry dough, stir cake mix
- Crawling activities, e.g. around obstacle course
- Painting, drawing on an easel or other vertical or slanted surface
- Windmills - stand with feet slightly apart. Put arms out to sides at shoulder level. Keep elbows straight. Move both arms together slowly in a circular movement, small circles, then large circles, forwards and backwards. This can be done holding

ribbons to make patterns or holding weights to make it harder (bean bags can be used as weights)

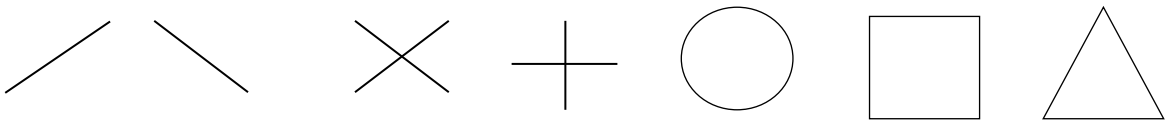
**Pre Writing Activities**

- Encourage good pencil grip –

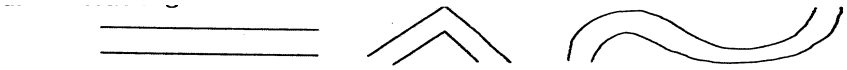


Pre 2 years 2-3 years 3-4 years 4-6 years

- Encourage scribbling, linear and circular scribble. Progress to colouring in, keeping scribble within progressively smaller defined areas.
- Imitate (child sees you draw it first) and progress on to copying (child doesn't see you draw it) shapes:



- Draw outline of shapes or paths and encourage child to draw between lines –



**Visual Perception Activities**

To help the child develop an awareness of shapes, sizes, positions and patterns.

- Play sorting and matching games, pictures, shapes, colours and sizes. Progress to matching letters, numbers and words.
- Spot the difference, odd one out games, find the hidden character/animal amongst a busy/complex background.
- Copy the same patterns, peg board patterns, threading sequences, making same Lego/Duplo models. Start simple, matching only 2 or 3 items and progress to more complex designs.
- Jigsaws.

**Motor Planning Activities**

- Obstacle course, child to climb over, crawl under, move around a set of activities.
- Charades – child to act out simple movements, i.e. drinking from a cup, cleaning teeth, for others to guess.
- Animal walks – child moves like an animal, i.e. elephant, crab, rabbit, snake.
- Simon says or follow the leader games.

**Balance and Ball Activities**

- Standing Games:
  Place bean bag on head and stand still. Eyes open/eyes closed. Progress to standing on one leg (right and left), start with eyes open, then eyes closed, counting slowly to 20.
- Rope Games:
  Walk along a rope/line with one foot directly in front of other, so heel touches toe of other. First in straight line, then make more complex squiggley rope patterns. Jump across the rope forwards, backwards, side to side. Hop across the rope forwards, backwards, side to side. Try this hopping on the right and left leg. Diagonally walk over rope. Stand at end of rope, place right foot to left side of rope, then left foot to right side of rope. Move right foot in front of left foot and over to left side of rope, continue along the rope keeping right foot on left side and left foot on right side.



- Throwing and Catching Games:
  A balloon, a knotted skipping rope or a bean bag is easier to catch than a ball. Encourage the child to catch with two hands together.
  Progress to smaller ball and child throwing ball up in the air and catching, progress to throwing and catching whilst walking or clapping hands before catching.

**Dressing and Undressing Activities**

- Undressing is easier than dressing; start with socks and hats, progress to removing loose fitting T shirts, unfastened coats, or elasticated trousers. Ensure the child can successfully complete these easy garments before moving on.
- Use a consistent approach and get the child to start the task and you assist when required or you start the task and the child completes the last part.

**General Tips**

- Give clear, short instructions and explain one step at a time
- Have consistent structured routines
- To build confidence, set realistic targets, concentrate on one or two aspects at a time. Praise successes and do not emphasise failings or difficulties.
- When learning new tasks:
  - Allow extra time
  - Do lots of practice
  - Do not pressure
  - Allow variability
  - Use rewards, if possible
  - Try to carry out a few activities everyday making them part of daily routine.

# Classroom Games

## Eye/Hand Co-ordination

- Koosh balls
- Velcro catch pads with tennis ball
- Quoits
- Skittles
- Whizz ball
- Elefun
- Lucky ducks for younger children
- Hungry Hippos
- Kerplunk
- Operation
- Magnetic fishing game
- Labyrinth game
- Ideas from Happy Puzzle Company catalogue

## Eye/Foot Co-ordination

- Wobble board
- Football goals
- Pot stilts
- Hopscotch
- Sequencing spots

## Planning and Organisational Skills

- Junior Mastermind
- Mastermind
- Junior and Adult Cluedo
- Guess Who
- Downfall
- Connect 4
- Twister
- Ideas from Happy Puzzle Company catalogue

## Short Term Memory

- Bopit
- Picture lotto
- Ideas from Happy Puzzle catalogue

## Other Useful Ideas

- Lego or other constructional toys
- Stickle bricks
- Trampet / trampoline
- Climbing frames
- Therapy ball

## Suppliers

| | | |
|---|---|---|
| Argos | www.argos.co.uk | 0345 640 3030 |
| Early Learning Centre | www.elc.co.uk | 0371 231 3513 |
| Toys R Us | www.toysrus.co.uk | |
| Rompa | www.rompa.com | 01246 211 777 |
| Nottingham Rehab supplies | www.nrshealthcare.co.uk | 0345 121 8111 |
| Happy Puzzle | www.happypuzzle.co.uk | 0844 848 2820 |
| LDA | www.ldalearning.com | 0800 783 8648 |

# Children's Occupational Therapy Service

# When to Refer Children of Nursery/School Age Who Have Coordination Difficulties

Occupational Therapists can help best when a child's performance in daily activities that require motor coordination (and visual perception) is substantially below that expected given the child's chronological age and measured intelligence.

Children with delays in all areas of development are less likely to benefit from Occupational Therapy.

Children should only be referred, after they have experienced classroom strategies and understand the task and have had chance to practice, but difficulties persist.

The child may have difficulties in one or more areas –

1. Self Care Activities, examples may include:-
   - Dressing, unable to manage fastenings or unable to organise and sequence the task.
   - Eating/drinking – at dinner/snack times, is unable to open packets, yoghurts, cartons, drink and/or use cutlery.

2. Productivity - Classroom Activities, examples may include:-
   - Handwriting, e.g. presentation, speed and fluency, letter formations, pencil grip/pressure.
   - Use of classroom equipment (e.g. scissors, ruler).

3. Play/Leisure Activities, examples may include:-
   - Participation in free play/structured play/playground games.

Referral to Occupational Therapy can be made by any healthcare professional, including school nurses, health visitors, doctors, consultants and therapists. However, often a school may have concerns and can ask the parents to discuss the referral with their GP.

The Occupational Therapist will find out the underlying reasons why the child has difficulties with the above activity(ies)

The cause might be poor coordination, motor planning, muscle tone, sensory and/or perceptual difficulties. The findings will then determine the individual's advice and/or treatment to be provided.

If you have any further questions and wish to discuss these with an Occupational Therapist then please call: **01384-366912**

# Paediatric Physiotherapy Service

## When to Refer Children of Nursery/School Age Who Have Coordination Difficulties

Physiotherapy treatment is more effective when a child has specific problems in motor co-ordination and balance. If a child presents with a global developmental delay the child may benefit more from general advice and gross motor experience.

Presenting symptoms which can be identified as a prerequisite to referral are as follows:-

- Frequent falls
- Reduced balance reactions
- Avoidance / dislike of PE sessions
- Reduced ball skills
- Poor co-ordination
- Presence of hypotonia / hypermobility
- Reduced spatial awareness

If the child presents with most of the above symptoms, parents need to be consulted for their permission to get a medical referral. The Clinical Medical Officer can do this, or parents can ask their GP to refer to Paediatric Physiotherapy.

Problem areas are identified after a full assessment and treatment approach is geared to work on these and to improve core stability of pelvic control, shoulder control and trunk extension, in order to facilitate increased gross motor and fine motor skills.

If you have any further questions and wish to discuss these with a physiotherapist then please call: **01384-361243**

# Book List

The following books are all available from the Dyspraxia Foundation

- Praxis makes perfect 11 by Dyspraxia Foundation
- Developmental Dyspraxia – 2nd Edition Dyspraxia Foundation
- Guide to Dyspraxia & Developmental Co-ordination Disorders By Amanda Kirby & Sharon Drew
- Helping children with Dyspraxia By Maureen Boon
- Dyspraxia – The Hidden Handicap By Amanda Kirby
- Children with Developmental Dyspraxia By Sidney Chu

There are also fact sheets available from the foundation.
Home (dyspraxiafoundation.org.uk)

# Additional Books

Pre-Dressing Skills
Skill Starters for Self Help Development
Author: Marsha Dunn Klein
Publisher: Communication Skill Builders Inc 3830 E. Bellevue/PO Box 42050, Tucson, Arizona 85733, USAISBN: 0-88450-874-9

Pre-Writing Skills
Skill Starters For Motor Development
Author: Marsha Dunn Klein
Publisher: Communication Skill Builders Inc 3830 E. Bellevue/PO Box 42050, Tucson, Arizona 85733, USA
ISBN: 0-88450-822-6

Pre-Scissor Skills
Skill Starters For Motor Development
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Publisher: Communication Skill Builders Inc 3830 E. Bellevue/PO Box 42050, Tucson, Arizona 85733, USA
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Hints & Tips for the Activities of Daily Living
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Author: Jean Alston and Jane Taylor
Publisher: Learning Development Aids

The Child with Developmental Coordination Disorder (Motor/ Learning Difficulties including Dyspraxia)
A guide for parents and teachers
Author: Elizabeth Stephenson
Publisher: MLDSG, Royal Aberdeen Children's Hospital, Occupational Therapy Dept., Cornhill Road, Aberdeen, AB25 2ZG

Handwriting Helpline
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