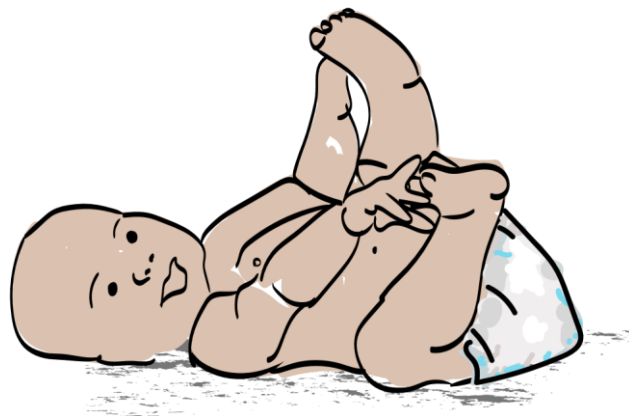


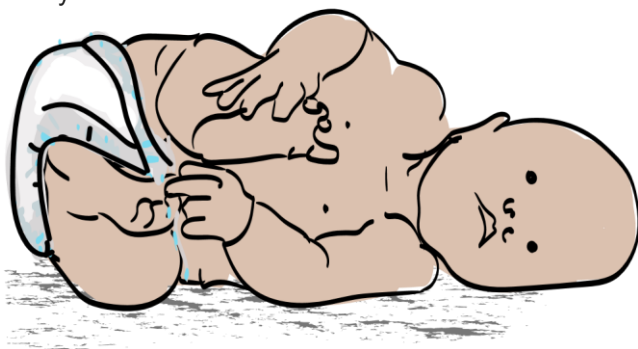
## IMMATURE ROLLING ACTIONS



1. A baby unable to roll over

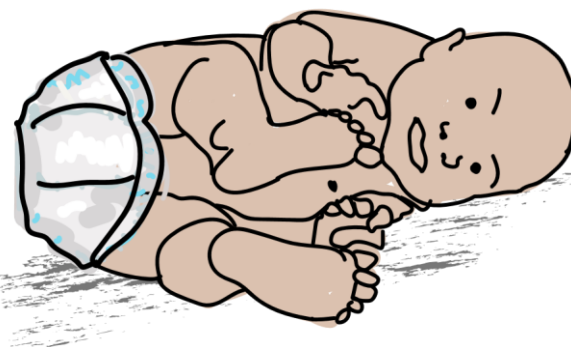


2. Holding her feet and then attempting to roll onto side.



3. **Action:** Rolling onto the side with the upper and lower body moving as one block. No separation between the upper and lower body means that they are unable to complete the roll at this stage.

**Importance:** This is an important movement that allows more effective and efficient movement development later in childhood (e.g. crawling and striking actions).



4. Rolling is led by the upper body. Even though there is some separation of the lower and upper body, the legs are not being used to start the initial kick over.

*NB. Babies roll from front to back first which is an easier movement skill – This skill card focuses on rolling from back to front. Once they have developed the core strength, they will begin to roll back to front which is a much more difficult movement. The point of the above movements being practised is to gain the core strength to flip over. You may have seen babies do this and these are the reasons why these movements are important. This also demonstrates the importance of tummy-time/back-time on the floor.*

## MATURE ROLLING ACTION



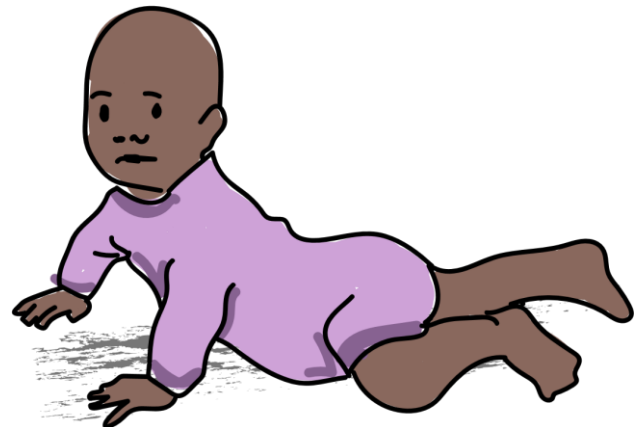
**Action:** Baby, rolling from its back to a tummy position involves using a leg kicking over to turn the lower body before the upper body. Hands press into the floor at the end of the roll with the torso raised up off the floor.

**Importance:** The separation of the upper and lower body used in rolling is a key movement that translates into crawling, throwing, striking, and many sporting actions as the child develops, e.g. the ability to separate the rotation of the upper and lower body, gained from practising rolling over, helps them to achieve a more fluent and stable crawling action. Later in childhood the separation action translates into the ability to generate more power from the muscles of the core during striking and throwing actions.

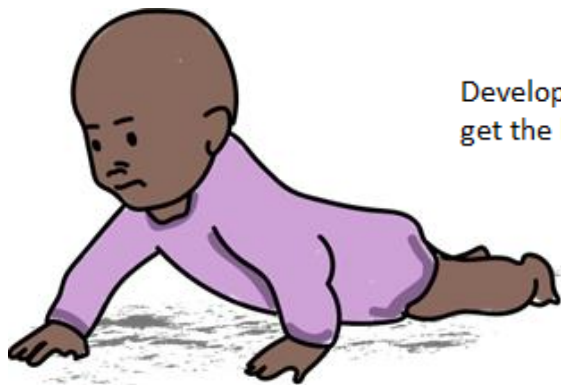
## CREEPING AND CRAWLING ACTIONS



Pre-crawling movements involve the baby lifting their heads to around 45 degrees at around 4 months. Then as they develop, they begin trying to push through the feet. However, they may lack the strength in the arms to lift the chest off the floor.

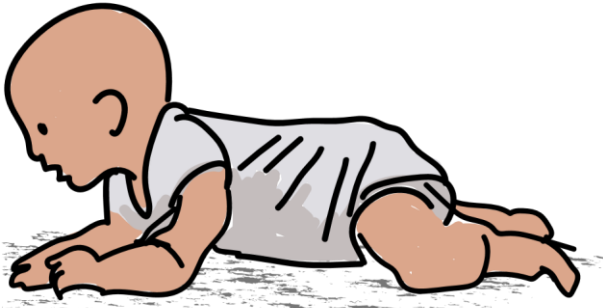


Developing upper body strength and trying to get the knees under the pelvis.

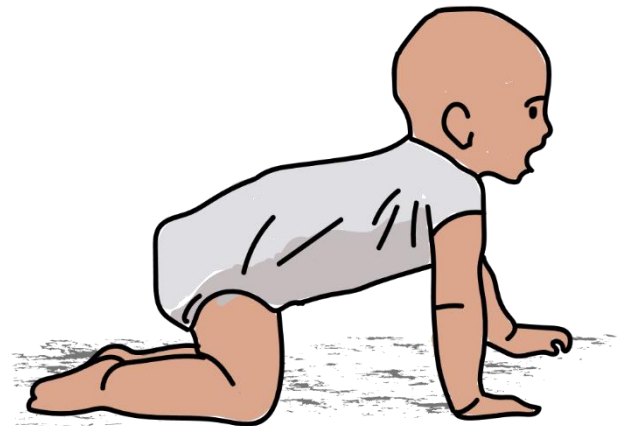


Crawling with chest and stomach on floor. Most children will move forwards and some backwards too.

## CREEPING AND CRAWLING ACTIONS



As strength increases the baby is able to engage in some low creeping, with the stomach off the floor and the legs working together.



When the baby is able to get the knees under the pelvis they may begin to rock back and forward in a high creeping position.



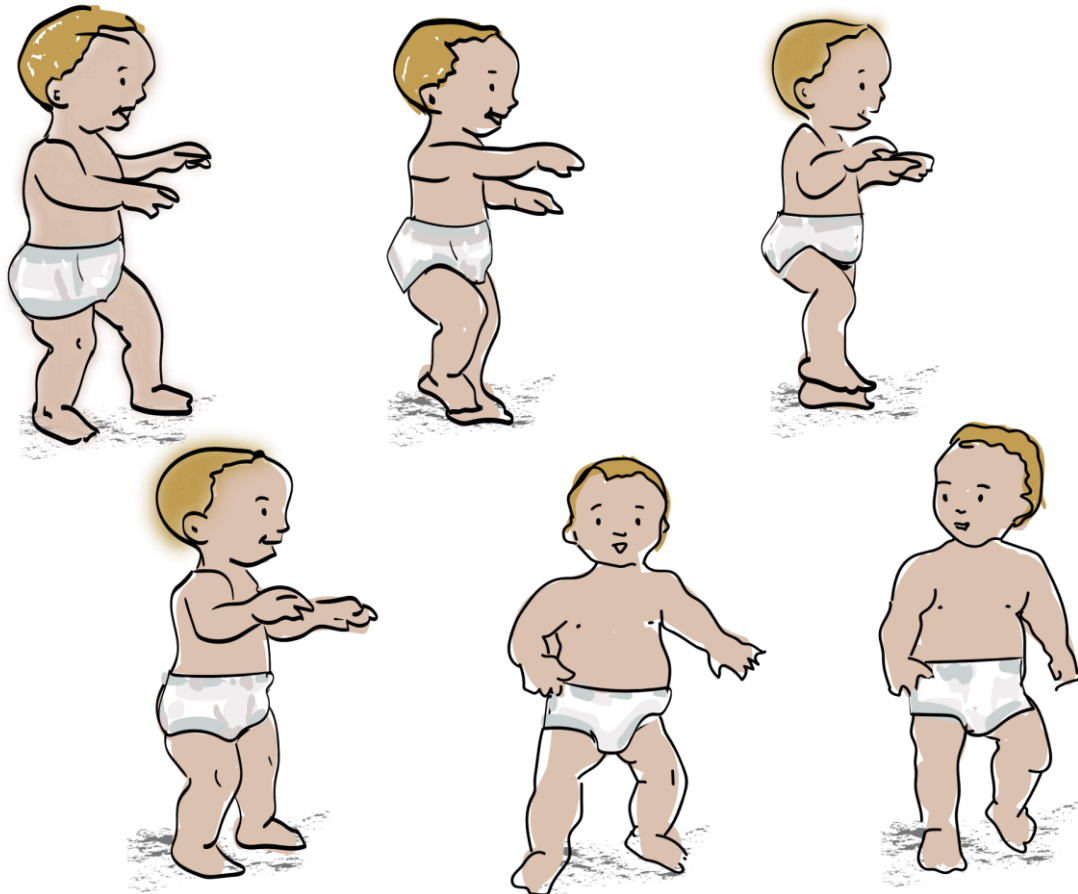
As crawling develops the baby is able to move the arms and legs alternately.

*NB. these movements are important as they stabilise the hips in the correct position. They have to get to the knees and hips to 90 degrees (180 degrees at birth) so they can start to move forwards. This will develop to a standing position and then they will start to walk.*



Some children will even crawl with their knees off the floor with the arms and legs working alternately.

## WALKING: DEVELOPMENTAL SEQUENCE



A toddler will begin walking with short, unsteady strides and with their arms in a high-guard arm position, i.e. up and out to help balance and protect themselves when falling.

To maintain balance, they will walk with their feet wider apart than mature walkers (n.b. this may also be influenced by the wearing of a nappy!) and will often have the toes turned outwards. Walking will progress to the arms swinging and the steps becoming more rhythmical, longer, stable and feet aligned to the front. This requires adequate strength and balance to hold the body upright.

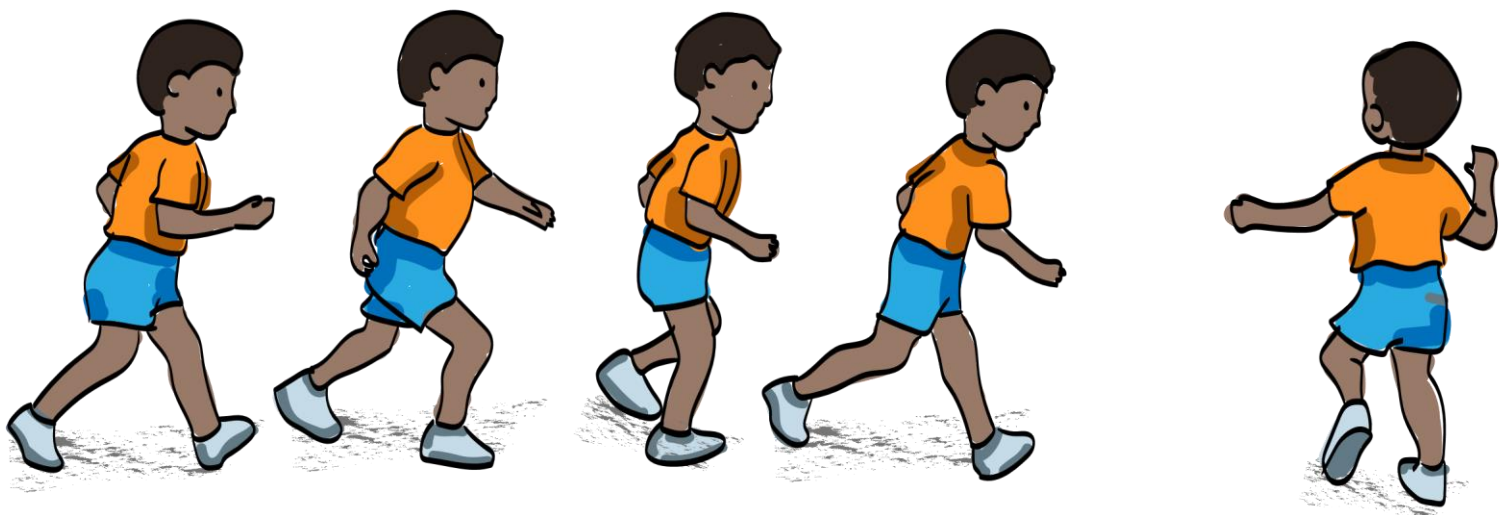
*Important for practitioners: It is important to note that walking has the widest age range of any movement skill for children to achieve – between 10-20 months. Children do not need devices like baby-walkers to support their walking, instead they need to come to walking when they are ready.*



## RUNNING: DEVELOPMENTAL SEQUENCE

Children will start to run at around 18 months and around 2 years can run quite competently. Between 4- 6 years it is the gross movement skill they use most in their independent play.

Children need strength, balance, co-ordination in order to run fluently. The development of running is aided by strength in muscles surrounding the hips/knees/ankles to keep the joints aligned and stable.

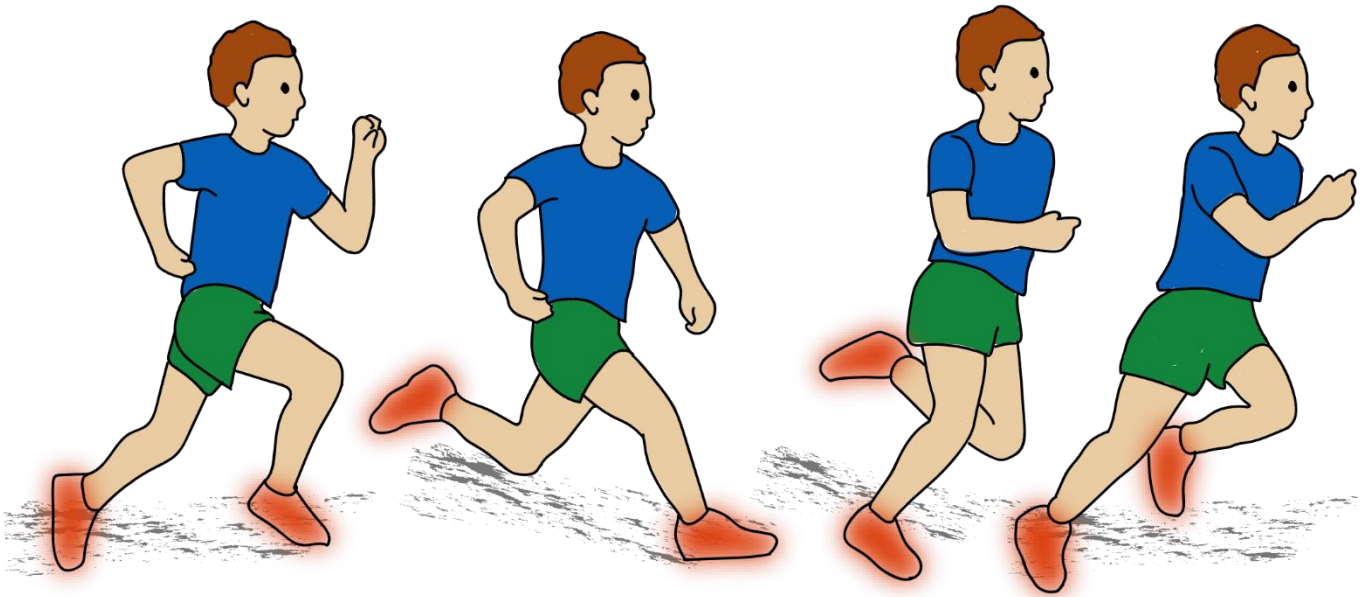


### Immature phase:

**Leg action:** The running step may be short and flat-footed. They may be unbalanced and find stopping or turning a challenge. The legs may be rather stiff and there may be a lot of lateral movement and some unstable steps. As a runner approaches an intermediate phase the stride length will increase along with stability as balance improves (alongside strength).

**Arm action:** The arms may be held in a up and in front of them to steady themselves or protect from any falls. They may swing the arms together in a 'coupled' action. As the arm movement progresses an intermediate runner may swing the arms across the body in with the opposite arm to leg moving forwards at the same time.

## RUNNING: DEVELOPMENTAL SEQUENCE



### Mature phase:

**Leg action:** As strength and confidence increases the child will enjoy running faster, may become more competitive and begin combining running with equipment, e.g. a football.

They will have longer running steps, be well balanced and co-ordinated in their running action. Ideally the legs should move directly backward from take-off, tuck under the body and then move forward to touchdown in the next stride.

**Arm action:** The arms swing forward or backward in the opposite pattern to the legs. They will stay roughly on this line and lateral movement will be limited.

## JUMPING: DEVELOPMENTAL PROGRESSION

Pre-jumping movements involve children starting to jump by holding on to someone/something and bobbing up and down. This allows them to get the feel of what jumping is and the relevant muscles are strengthened in preparation. They will also gain the balance and coordination necessary to perform this movement independently.

They then progress to stepping from one foot to the other, and by 3 years most children can jump successfully from 2 feet to 2 feet. However, remember that jumping on the spot is a more difficult task than jumping forwards.



### IMMATURE PHASE:

#### Leg action:

*Take-off:* From the start position, the jumper may step out with one foot. Usually there is little knee flexion. The knees may extend (straighten) before the heels leave the ground.

*In-flight:* This can result in a more vertical jump and therefore limits horizontal distance.

*Landing:* Upon landing, one foot may land before the other. This can cause an unbalanced position and demonstrate an inability to cushion the landing through both legs.

#### Arm action:

No action of the arms during take-off. After take-off, they may 'wing' at the elbow (i.e. throw their arms out to the side like wings). This can limit height and distance achieved.



## JUMPING: DEVELOPMENTAL PROGRESSION



### INTERMEDIATE PHASE:

#### Leg action:

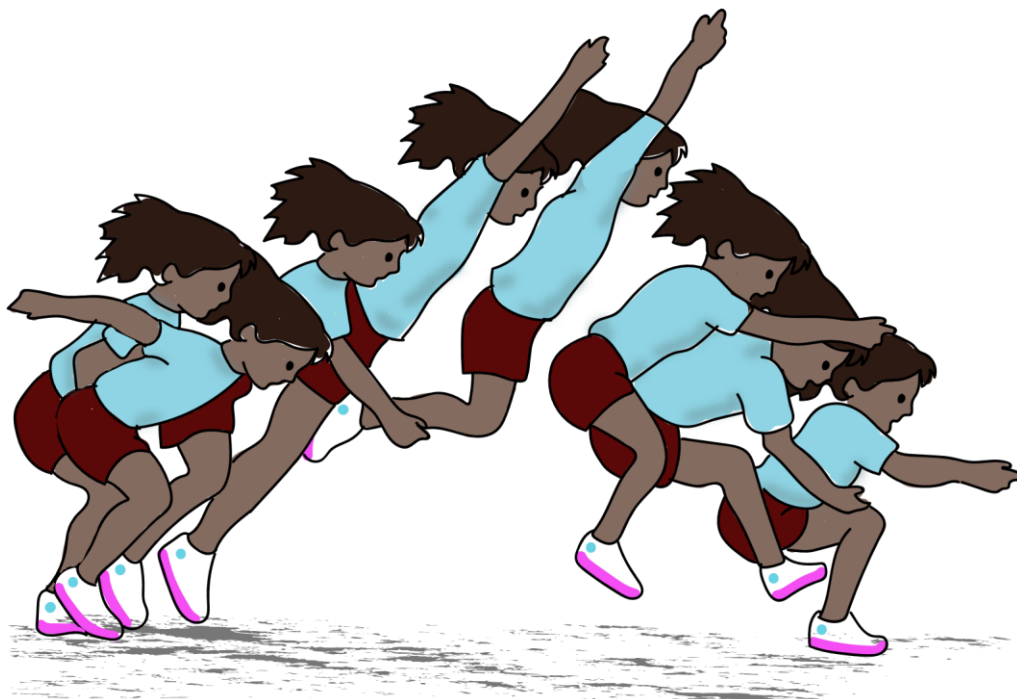
*Take-off* : The heels come off the ground at the same time or before the knees and hips extend (straighten) into take-off  
*In-flight*: The knees and hips never fully straighten. This can limit horizontal distance achieved.

*Landing* : A two footed landing should be taking place. They may not control the landing and either stay too upright or go too deep where their bottom hits the back of the legs to stop them.

#### Arm action:

There is some arm swing during take-off and at landing, but no/little movement of the arms to an overhead position during the jump.

## JUMPING: DEVELOPMENTAL PROGRESSION



### MATURE PHASE:

#### Leg action:

*Take-off:* The heels come off the ground first, followed by the knees and hips fully straightening (extending) into the jump. The child starts the take-off by leaning forward. This helps to achieve maximum distance.

*In-flight:* The legs will tuck and then reach forwards of the body in preparation for landing.

*Landing:* A two-footed landing will take place. This allows cushioning through both legs – the bent knees should begin to straighten on landing to stop the child sitting too deep.

#### Arm action:

*Take-off:* The arms swing back as the legs bend.

*Inflight:* The arms move to an overhead position with straight elbows. This helps to increase jump distance.