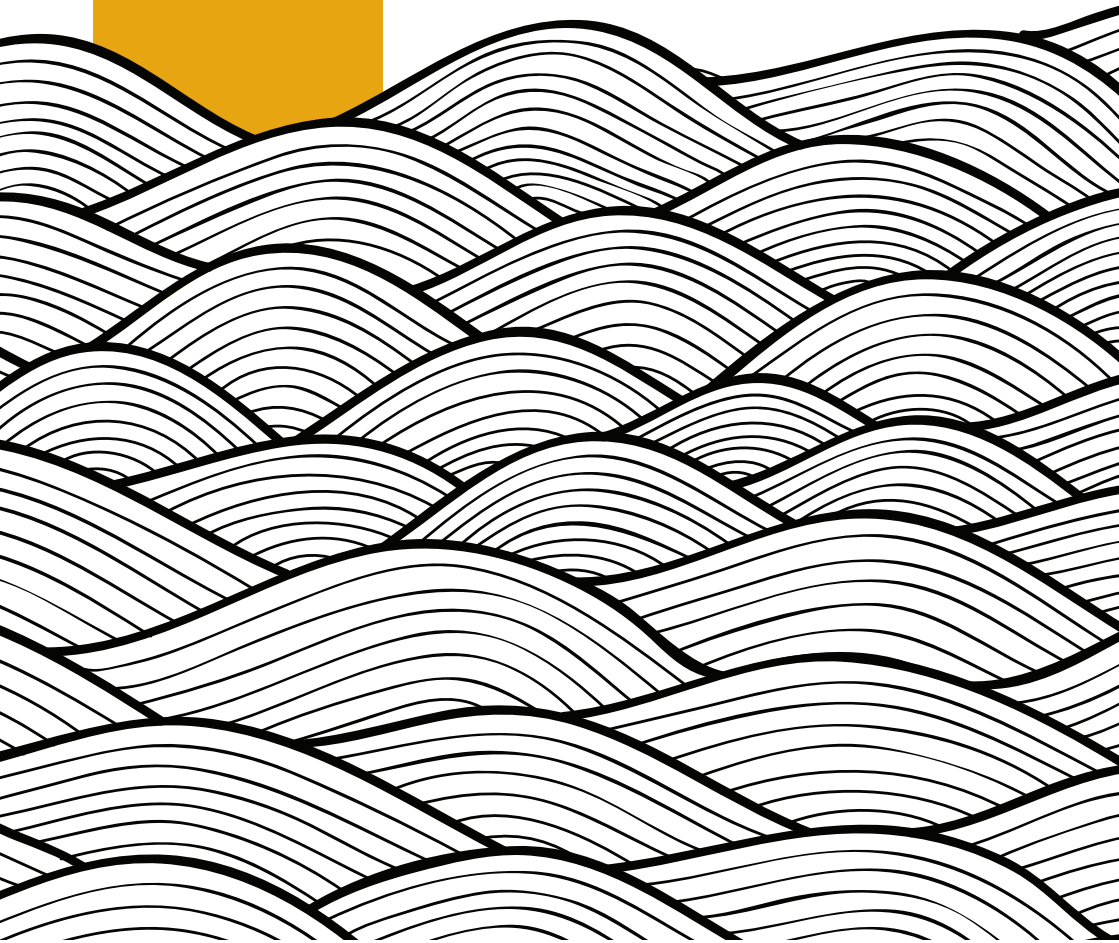




BABYSOUNDS

Rhythm, Melody and Vibration



PROMOTING EARLY COMMUNICATION DURING THE ANTE NATAL PERIOD
USING MUSIC, SOUND, RHYTHM AND MELODY

Promoting bonding, positive parenting and secure attachment.

An information booklet
for practitioners in
Lanarkshire.

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What is Babysounds?



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Techniques offered in the Babysounds programme using rhythm, melody and vibration to promote the earliest means of communication for parents and babies pre-birth, creating the foundations for bonding and secure attachment (Bowlby J. 1988).

Further in this Babysounds Information Booklet we will explain how the programme can be used and evaluated. First we will explore the benefits and some research to support the programme.



The “Building Parenting Capacity in Lanarkshire Parenting Support Strategy” (2013) states that:
“Babies have a genetic instinct to tune in to their primary carer. They are born relationship ready.”

The purpose of this information booklet is to improve the knowledge and skills of practitioners around hearing pre birth and to offer practical techniques as to how we can encourage parents to connect with their unborn child.

Aims

- Increase parental knowledge, skills and confidence
- Improve parental ability to nurture
- Improve parent-child bonding
- Increase pre-verbal communication and interaction
- Promote secure attachment
- Increase each child’s confidence to engage and learn

Six key areas:

- Hearing pre-birth
- Rhythm
- Voice
- Listening and responding
- Connecting and bonding
- Early learning

Outcomes:

In the short term parents can:

- Have an awareness and responsibility regarding how parental language and behaviour is experienced by the unborn child
- Promote a positive interaction before birth
- Increase parenting capacity and involvement before birth for fathers
- Broaden understanding and awareness for practitioners of non and pre-verbal communication in the early years

Longer-term outcomes:

- Improved parent-child attachment
- Safer, secure relationships
- Confident parenting
- Confident children – attitudes and ability to learn

Why music?

25% of brain development happens pre birth and 75% during the first year- during the non-verbal phase of life.



At 16 weeks gestation, the unborn baby begins to hear the world around them. The unborn child hears and feels the vibration of their mother’s heart beat and the steady rhythm of the internal organs, walking, talking and breathing. Babies are born with their sense of hearing intact. Sound travels four times faster through the amniotic fluid than it does in air. Vibration travels directly through the pelvic bones which are right next to the baby’s ear drums. Babies are already listening to everything that makes up their tiny sound world before they are born and they are remembering!

Low, male voices are heard more clearly and offer stronger vibration. Fathers want to be involved and play a greater part before birth and they can relate easily to music.

MUSIC is our earliest means of non-verbal communication.

Promoting wellbeing



As all elements of the Babysounds programme complement the GIRFEC approach, it is hoped that these techniques will support your work when addressing parenting capacity, social and emotional health with expectant and new parents during the ante and early post natal period. In line with the core GIRFEC values and promoting wellbeing, Babysounds opens an accessible means of non-verbal communication, reinforcing parents' inherent instinct to nurture and connect with their child.

PLEASE NOTE

Consideration should be given to parents requiring additional support. If the pregnancy was concealed or there is a history of substance misuse, sharing knowledge about the unborn child's development and experience pre birth may emphasise feelings of guilt. Parents may be reluctant to reveal negative or lower levels of interaction with their babies. They may hold fear around the consequences of any revelation regarding their own lack of confidence to engage face to face or to soothe their child. This may be deeply-rooted in parents' own experience of poor parenting or a history of abuse, trauma or mental health issues.

As the Babysounds programme promotes bonding and secure attachment, this intervention is NOT advised if the child is to be removed from birth parents.

The Babysounds programme is recommended for fostering or adoptive parents.

Music and language

Non-verbal “proto-conversations” using the elements of music are the building blocks of speech and language, containing exactly the same elements:

- Melody in the ups and downs of the voice
- The pace and rhythm of the melody
- Loud, soft, fast, slow.....
- Waiting and turn-taking
- Listening and empathy
- Emotional quality, changing moods and intensity

All of these elements are “given life by our inherent communicative musicality (Trevarthen, C. 2009).

Many parents who have taken part on the babysounds programme report that:

“I thought he was too young to be able to respond like that. It’s like you’ve turned on a switch I didn’t know was there!”

Parents begin to see their child’s ability and readiness for social interaction and are more open to attending groups such as Bookbug. Reward in the sound motivates further interaction. Sharing and modelling these natural and tangible tools for positive interaction at the earliest stage, promotes increased parental awareness, understanding and pride in their child’s ability.

“Myself, I want to talk and sing to my baby but other people say I’m silly. Now I know I’m not and I’m more confident to do it and tell them why”

We have observed increased confidence to engage in this way resulting in natural parent-child bonding and enriched relationships.

“No, no way. I would never have known what to do if it wasn’t for Babysounds. I’d never have known any of this. I would have talked to him but I wouldn’t have known what he could do. He really loves it and all the other workers have noticed.”



Music therapy and neuroscience

Recent advances in Neuroscience research shows that music is processed throughout the brain, building the neural pathways between right and left hemispheres. Dopamine is released as pleasurable and rewarding sounds are produced, driving intentional action and motivation to engage. Rhythmic structure is a decisive factor concerning lateralisation as well as activating the auditory cortical system with positive indications for decoding speech sounds and the ultimate acquisition of speech and language, meaning and cognitive development (Rauschecker 2012, Department of Neuroscience, Georgetown University Medical Centre, Washington DC).

Through attuning to the sleeping and waking states of the foetus, mothers can respond with changing levels of intensity in the rhythm of movement and quality of their voice. Newborn babies are comforted by the sound of their mother's voice and familiar structure in music and sound which they were exposed to during the ante natal period. Parents are enabled to explore and extend individual styles of engagement and continue to develop these through the early years.



1. Corpus callosum:

Connects both sides of the brain

2. Motor Cortex:

Involved in movement while dancing or playing an instrument

3. Prefrontal Cortex:

Controls behavior, expression and decision-making

4. Nucleus accumbens and amygdala:

Involved with emotional reactions to music

5. Sensory Cortex:

Controls tactile feedback while playing instruments or dancing

6. Auditory cortex:

Listens to sounds; perceives and analyzes tones.

7. Hippocampus:

Involved in music memories, experiences and context

8. Visual Cortex:

Involved in reading music or looking at your own dance moves

9. Cerebellum:

Involved in movement while dancing or playing an instrument, as well as emotional reactions

Practical ideas

We know that building relationships before birth increases the chances of a positive bond and the means to develop secure attachment. We know that babies enjoy rocking, patting and singing ... but why?

We are giving them back what they are already familiar with - the pulse of the maternal heartbeat, the vibration and quality of the ups and downs in the maternal voice and the rhythmic swaying of walking and movement - all the elements they remember from the sound world pre-birth.

Techniques which are learned during the antenatal period can then be transferred through to postnatal interaction, serving as tools for soothing, distracting and relating to the child. Parents can re-create the internal sound world with a repetitive and steady "heartbeat" through patting and rocking. They can use the vibration and melody in the contours of their voices by humming, cooing and babbling, finding more relaxed ways to sing nursery rhymes.

Children naturally tune in and match the pitch present, displaying their ability to listen and connect through music and sound. They can offer highly appropriate responses as the brain processes the elements of music, already familiar to them. Through joint positive experience in the music, both the parent and child experience an increasing number of empathic, positive interactions, leading to stronger parent-child bonding and attachment.



Babysounds has opened channels of communication for parents requiring some additional support giving them confidence to nurture their child pre birth, offering accessible and tangible skills for clients with a range of abilities and understanding. As families build inner resilience and secure attachment through improved relationships, they are empowered to make appropriate choices and are more able to cope throughout a lifetime of challenges and changing.

Clients participating in the Babysounds programme:

"It all makes sense but you don't think about any of that... but it makes sense. I didn't know the baby's hearing developed at 16 weeks. I was 21 weeks before I knew I was pregnant, so she knew about me before I knew about her - Amazing."

First Steps Worker

"The concept of turn-taking and waiting is brilliant to show clients how quickly the babies learn to do this and that this can be carried on into other aspects of daily life."

Six Key Areas

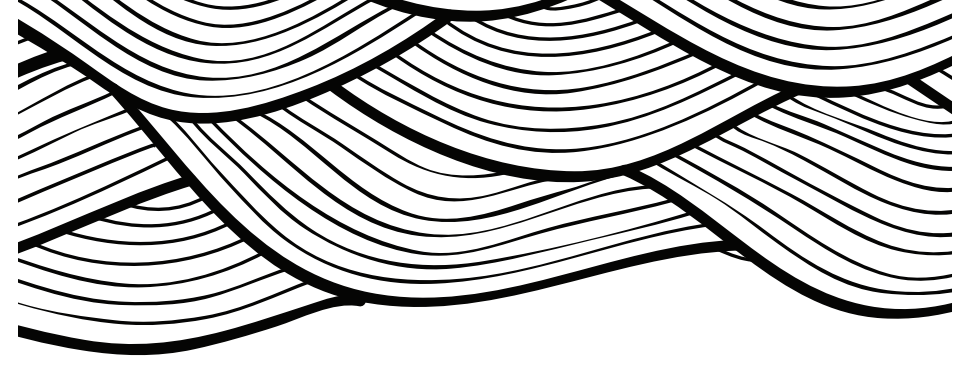
In using the Babysounds programme it is important to understand the details of the six key areas and how to apply these in practice. Each key area has suggested techniques to share with parents.



Begin by exploring parents' own knowledge and relationship with music

FOCUS ON SIX KEYS AREAS:

- **HEARING**
- **VOICE**
- **RHYTHM**
- **CONNECTING and BONDING**
- **LISTENING and RESPONDING**
- **EARLY LEARNING**



INFORMATION AND TECHNIQUES TO SHARE WITH PARENTS FROM PRE-BIRTH

WHY MUSIC? The elements of music are already present before birth. The brain is developing rapidly before birth and during the first year - the pre-verbal phase of life.

Using the elements of music and sound as communication promotes secure bonding and attachment, enabling positive parenting and early learning.

Music holds all the same elements of speech and language minus the words:

- Listening
- Turn-taking
- Silence
- Waiting
- Responding
- Pulse
- Rhythm
- Pitch
- Volume
- Tempo
- Melody
- Phrase length
- Intensity of mood
- Emotional meaning

HEARING

Antenatal

ASK: How much do you know about your baby's hearing before birth?

- Hearing starts to develop at 16 weeks gestation and is fully developed before birth. Sound travels FOUR times faster in the amniotic fluid than in air.
- No headphones are needed - they can cause anxiety
- Low sounds are heard and felt more clearly than higher ones
- Babies hear the beat of their mother's heart, her voice, the gurgling of food, liquids and air. Along with sounds from the outside world, their sound-world is quite noisy!
- The 'melody' of voices are mostly heard as vowel sounds - a e i o u
- The qualities vary from long / short, high / low, loud / soft, happy / sad, anxious / relaxed
- The unborn baby is remembering the sound of the mother and father and learning about changing moods and emotions.

Ideas to try:

Show DVD - Life Before Birth: The Senses - Hearing



Postnatal

ASK: What have you observed about your child's response to your voices, sound, music?

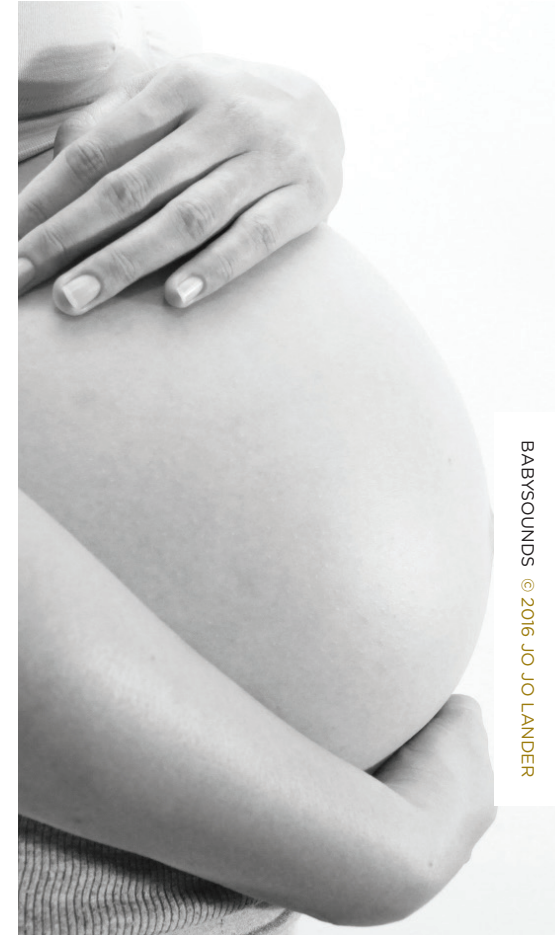
Eyesight is not fully developed at birth. Babies rely on hearing and sound to make sense of their new world. The elements of music which make up the sound world pre-birth are familiar after birth and serve as the earliest means of pre-verbal communication. Babies want to connect with their main carer as soon as they are born because they are not able to look after themselves. They need to know someone is there, listening and responding to their needs.

VOICE

Antenatal

ASK: What do you know about how the baby experiences the mother's voice before birth? ... and male voices? Do you know why babies prefer their mother's voice to any other? Do you talk, hum or sing to your baby?

- Babies feel the vibration and hear the ups and downs (the melody) of their mother's voice through the fluids in the body. Later in pregnancy vibration and sound travel directly through the pelvic bones into the ear drums.
- Babies are already learning the patterns of speech - the ups and downs in the melody of the mother's voice, fast or slow, relaxed or anxious and how these match our changing moods and behaviour. Once they are born babies recognise emotional upset and may automatically release stress hormones.
- Newborn babies can turn their heads round towards the familiar sound of their mother's voice as they look to connect with their main carer.
- Talking, humming and singing to your baby before birth helps them get to know your voice. Newborns are comforted by the sound of their mother's voice and find security in a strange new world. Your voice will help to settle your baby.



VOICE

Ideas to try:

- Ask expectant mothers to place the palm of their hand at the base of their neck, on the front and clear their throat - can they feel the vibration? This is how the baby feels her voice when she hums, sings, coughs or laughs.
- Low, deep male voices are heard more clearly from outside the womb as they have bigger sound waves and stronger vibration - like the vibration you feel from a bass speaker.
- Fathers feel included when they know that babies can hear their lower voices from outside the womb. Sharing the pulse of the maternal heartbeat increases awareness of what the unborn baby might be experiencing.
- Babies prefer music which closely matches their mother's heartbeat. Parents can adapt their favourite tracks and sing them in time to the maternal heartbeat.
- For relaxation, mothers (with or without partners) might like to make some quiet time to match the maternal out-breath with touch and /or voice.
- Get to know some nursery rhymes or songs or make up some of your own.

Postnatal

ASK: Do you talk, hum, sing to your child? What responses have you observed?

- Shall we try this together?
- After birth, connect and 'hold' your baby through sound. Listen closely and copy or mirror back the quality of the baby's vocal sounds, exactly what you hear. This tells the baby that someone is listening and responding. They feel connected as the parental voices are familiar and comforting. This motivates them to offer further communication and is rewarding for parents.
- Then you can extend this in small ways, take turns, leave plenty of space for the baby to respond. Play around and use facial expression, gestures with hands and feel free to use your own ideas.
- Match your baby's changing moods by adapting the quality of your voice.
- Use simple vowel sounds, humming or singing. Babies want to hear the voices and patterns they are most familiar with.
- Use the songs learned before birth. Repeat them regularly, adapt them, slow them down, play around with them so your baby can take part too.
- Note any interest or response from the baby and share your observations with parents.

RHYTHM

Antenatal

ASK: Do you know why babies like to be patted or rocked? Do you know how to take your pulse? Do you pat or stroke your bump?

- Before birth, babies hear the steady beat of the mother's heart and are rocked with the steady pace of her walking. They feel the mother's breathing pattern and are getting to know her rhythmic patterns of speech. Replacing these rhythms after birth helps them feel secure because they are familiar with them.
- Unborn babies prefer music which closely matches the pace of their mother's heart.
- They can also move in time to music they like.

Ideas to try:

Show expectant parents how to take their pulse (at the side of the neck) - keeping one hand free for tapping that pulse on their knee - where partners, friends or siblings can see it. Others can then join in and match that pulse with the mother and perhaps sing, hum, stroke or pat the bump or play guitar, drum etc.



Postnatal

ASK: How does your child respond to patting and rocking?

- Once babies are born, they no longer experience the steady and familiar rhythm of the mother's heart. Help them to feel secure by giving them back what they already know - Replace the maternal heartbeat with gentle patting and stroking to a relaxed beat of around 60 beats per minute (match the second hand on a watch or clock, digital display)
- Replace the rhythmic rocking babies experienced in the womb when their mothers walked around - keep it steady, repetitive and predictable.
- Attune to the rhythm of their breathing with touch and voice on their out-breath. This is more relaxing than working with the in-breath.
- Match and attune to the speed of the baby's sucking rhythm with a stroke, pat or hum to regulate feeding.

CONNECTING AND BONDING



Antenatal

ASK: How do you feel about your pregnancy? Can you describe how you feel about your baby right now? ... do you feel connected? ... can you say how?

Ideas to try:

Encourage parents to observe waking states and when is best for them and their baby to connect through sound or touch, using some ideas and techniques set out above.

Support any self-conscious feelings and discuss options for finding privacy or setting aside a suitable time of day to try out ideas.

Postnatal

Communication using voice, rhythm and vibration is rewarding for both parent and child and motivates everyone to engage in further positive interaction. Ideas and techniques are also designed to be integrated as lifelong coping strategies, maintaining secure relationships through times of illness, exhaustion and challenging life circumstances.

LISTENING AND RESPONDING

Antenatal

ASK: Are you aware of when your baby is moving or resting? Does your baby respond to voices, music, touch? Do you play music to your baby?

Ideas to try:

During the antenatal period, choose music or make different playlists for morning and night-time. Lively and active for morning. Soft and soothing for evening. Use them every day during the antenatal period. Babies will remember the music once born and it will signify to them when its time to play ... or not. This is also relaxing for parents.

In later pregnancy the sense of touch is developing - encourage parents to respond to fetal movement with patting / stroking while using their voice.

Postnatal

The following activities are a useful introduction, helping parents focus on their child and take time to listen. This promotes awareness of their child's ability to engage and offer response. The exercises also strengthen the child's visual focus and tracking, head, neck and eye movements and motor control.



LISTENING AND RESPONDING

Keys / Bells

Using a bunch of keys or shiny hand bells, engage the baby visually - face to face. Hold the keys/bells where the baby can focus on them. Shake them gently but only when the baby is looking at them. If the baby looks away, stop the sound. They may only focus for short periods.

Will they remember where the keys/bells are? Are they interested? Will they find them again?

If so, reward them by shaking them once more. If not, wait until they are ready and show them the keys/bells again. Perhaps move them slowly to a different position where they can focus more easily. As you shake them, move them slowly from left to right, up and down and remember to stop if the baby looks away. Only continue when the baby is ready, not before. This demonstrates that we are still listening, waiting, attending and that the baby is included in this interaction.

Observe if the baby is reaching out with their hands, hold the keys/bells near to where they can touch them. This promotes hand-eye co-ordination. Help them to make their sound and be heard. Allow them to explore with their hands and mouth, an important part of sensory development.



Hand drum / Guitar

Find a drum with a rough skin for tiny sharp nails to make a great sound. A guitar works well, babies love to feel and pluck the strings.

Place them under the baby's hands. Tap a steady beat, babies like to feel the vibration. Add your voice too. Then pause and wait ... will the baby respond with a small sound, gesture or make eye contact? ... showing us that they are interested and might like to hear more?

If so, copy their sound or gesture! Mirror their sound back to them exactly as you heard it. Wait ... listen, give the baby space ... offer time for them to make another sound or movement and take part.

As the child grows, extend ideas, create new ones for the child to copy, then copy those and reinforce for them that you were listening and liked their ideas. Nurture their ability at every stage.

EARLY LEARNING

Antenatal

ASK: Do you know why babies like nursery rhymes and songs? Do you know about brain development, memory and early learning before birth?

Nursery rhymes and songs are just mini musical structures which are easily processed by young brains. The shape has a simple beginning, middle and end. Babies also hear, remember and prefer music their parents listened to pre-birth. We can turn any tune or song into an interesting musical pattern, babies love repetition so we can continue to use these patterns into early childhood.

Postnatal

Babies are born relationship-ready and find communication and interaction hugely rewarding. This motivates the brain to want more ... and more ... because its rewarding ... and interesting, therefore they are learning how to learn and rapidly growing their brains.

Secure babies can relax, feed, sleep, notice new things about the world and people.



EARLY LEARNING

A technique for supporting transition for the baby - from being held - to settling in a cot, chair or buggy:

While still holding your baby, sing, hum, make up a rhyme and stroke or pat your baby with a pulse that matches your voice

Hum or sing to your baby about what's happening - 'going to bed / going out / having a bath ...'

Continue humming, singing and stroking as you place your baby down

Continue humming, singing and stroking downwards towards baby's feet

Keep going until your baby begins to relax

As your baby begins to relax, soften your voice and lighten your touch
Lower your voice, slow down your voice, slow down the stroking

Lighten your touch to one finger

Gradually remove the touch

If your baby is not settled, return to stroking

When baby settles, gradually remove the touch

Keep your voice going, stay with your child

Keep your voice going and gradually move away from your child

If the child doesn't settle, return and stay close, using your voice only

Continue softening your voice while you attend to other things nearby, coming in and out of the room, still singing, humming or talking ... until your child is happy to be left and settle by themselves.

THERE IS NO RIGHT OR WRONG - TRUST YOUR NATURAL INSTINCT

Encourage parents to explore different ways of interacting.

What are parents doing quite naturally? Listen to their ideas, nurture and extend them.

Empower parents and build their confidence.

Babysounds suggested session content

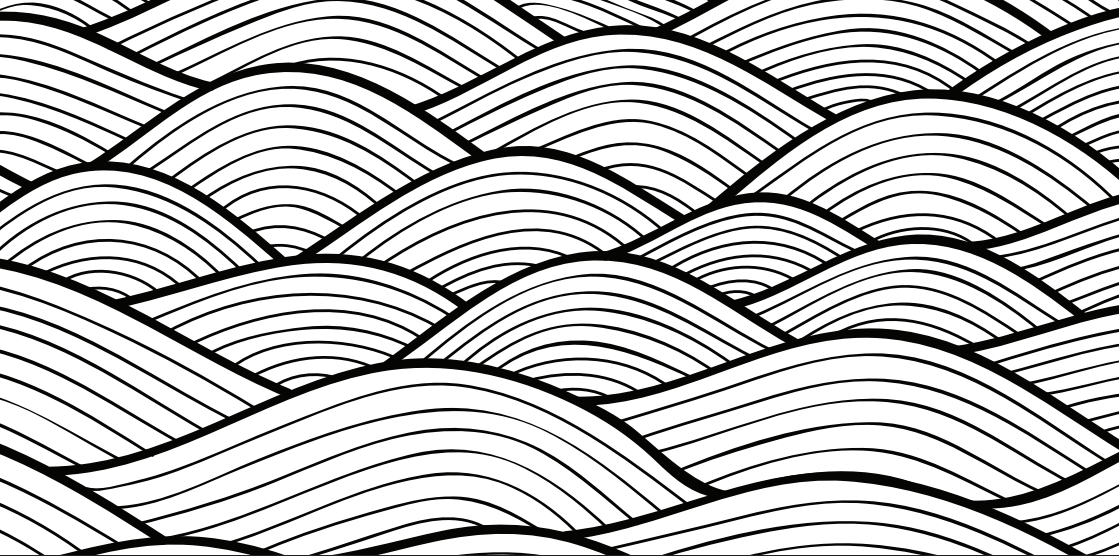
ANTENATAL

- Create a relaxed atmosphere
- Introduction to Babysounds – use discretion – is it appropriate to show Life Before Birth DVD?
- Share information on sense of hearing pre birth, rhythm, melody, vibration, brain development and learning in utero
- Ask parents to feel the vibration of their own voices by placing their hand at the base of their neck. This gives them an idea of what the unborn baby is feeling
- Awareness – note waking, sleeping states of the unborn child. Use techniques when in alert state (often at night)
- Find maternal pulse in neck – the mother's heartbeat. Encourage mum to tap this pulse with her other hand so that her partner can match it by stroking bump, singing or humming, using a guitar etc (most will prefer to do this in private)
- Focus on maternal breathing – making a sound (using voice/drum) or stroking/patting on the out breath only
- Involve partners – awareness of strong vibration in low, male voices
- Vibration travels through the pelvic bones – highlight arguments, raised voices. Babies remember and will automatically release stress hormones
- Compile playlists for gentle exercise, post natal soothing/ action/fun
- Parents can adapt their own favourite tracks sing them more slowly - match relaxed adult pulse and offer space and time for babies to take part in some small way.

POSTNATAL

- Connect and hold the baby soon after birth
- Focus on matching infant out breath (when chest falls)
- Baby doesn't always need fed, changing or held – they just need to know you are there
- Techniques for settling a child and offering security and comfort – replace heartbeat with patting, stroking all around the body
- Transition from arms to cot/pram – while holding, hum or sing and pat to match the pulse. Lay baby down, keep singing and patting the body. Slow down – use a lower, softer voice and soften the touch as baby relaxes. Gradually move away, remove the touch, keep the voice going. Gradually soften the voice as you move away, keep it all going if baby stirs.
- Songs and rhymes familiar to the baby will work well
- Notice what music the baby responds to
- Vary the music/songs to match different moods
- Learning nursery rhymes, adapting them to baby's pulse, own style/ make up words
- Wait and listen to the baby's contribution and match their sounds
- Model turn taking, non-verbal communications and proto-conversations
- Observe the rewards in communicating this way and the child's motivation to continue
- Increase confidence
- If a baby is interested, they are learning how to learn and growing their own brain





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