



# Development of the Foetal Senses

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## Hearing



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Welcome to this Foetal Senses resource, shared through the Butterfly Baby Club, which focuses on... the development of hearing in the womb. The resource is divided into two parts. The first part explores how babies develop and use their sense of hearing, and the second part describes a sense-based mindfulness activity that expectant parents can share with their unborn babies.

Let's begin by exploring how babies develop their sense of hearing in the womb...

Perhaps you have already heard about the popular claims that listening to Mozart or Beethoven during pregnancy will increase the likelihood that your child will be a musical prodigy? It's not that straight forward, but that doesn't mean that listening to music won't provide enhanced cognitive development for your baby after birth. Out of all the senses, the sense of hearing is likely to be the most developed before birth. The ear starts to develop in week three of gestation. Initially babies 'feel' sound vibrations before they 'hear' them. By week 16, babies can begin responding to sound and hear their mother's voice due to its higher frequency. Babies begin hearing male voices a little later, around 24 weeks, due to their lower sound frequency. The human voice is one of the few sounds that is not distorted by the amniotic fluid and body tissues around the womb. Therefore, babies can learn to recognise the familiar voices of their parents in the womb and respond to those voices at birth.



# Hearing continued...

Week 24 is a perfect time to begin stimulating your baby's hearing because at this stage of development mature synapses relaying signals to the ear are detected. Listening to music with your baby is a simple way to stimulate your baby's hearing and spend quality time together. When it comes to playing music, amniotic fluid is good at conducting sound, so there is no need to increase the volume to make sure your baby can hear whatever you are playing. Be careful not to play music or sounds louder than 50 decibels to prevent startling or stressing your baby. To give you a general idea of decibel levels, a telephone rings at about 80 decibels, a hair dryer is around 60 to 95 decibels and the sound of a toilet flushing is around 75 to 85 decibels. When playing music, it's best to keep the volume low and around the level you will play it after your baby is born.

Hearing plays a crucial role when it comes to developing parent-baby attachment, that is, the relationship between you and your baby. Talking with your baby is a simple yet powerful way to connect with your baby and stimulate their sense of hearing. Even though it may not feel like your baby is listening, they really are! Your baby will also learn to recognise songs that you sing, stories that you read out loud, music that you listen to and even the theme tunes of your favourite TV shows. Recent studies have shown that babies can recognise specific songs their mothers listened to during pregnancy several months after birth.

Singing also has a very important prenatal role and has even been considered a pre-linguistic language. Studies have shown that mothers who sing to their unborn babies are more effective at communicating with their babies, as opposed to mothers who simply speak to their babies. Our global history shows that mothers the world over have sung lullabies to their babies not only to soothe them, but to teach their little ones the sounds and timbre of their mother tongue.



# Hearing continued...



It is never too early to begin the routine of reading a story to your baby every day, singing songs to your little one or listening to music together. Sing your heart out, tell stories and gently dance to your favourite music. Do whatever makes you feel good because when you feel good your baby will feel good too!

Now it's time to share a sense-based activity with your baby...

This mindfulness session will require you to tell your baby a story. There is a selection of stories for you to choose from in the Quiet Space of the Butterfly Baby Club or you may have a favourite children's story of your own in mind. You may even like to create your own story using your imagination. This activity is designed to help you connect with your baby whilst focusing on the sense of hearing.

Once you are ready to begin, place one or both hands on your belly to reaffirm your physical connection with your baby. You may want to keep one hand on your belly throughout the session to maintain the connection with your baby during your sensory experience.

Take a few mindful breaths, in through your nose and out through your mouth. Don't rush, take your time to get used to this circular breathing.

Begin to tell your baby the story and imagine them listening contently. Relax and have fun with the story by creating different voices for the story's characters. Unleash your inner cartoon voices, you know they're in there, don't be shy!

# Hearing continued...



Emphasise the sounds in the story: sing a birdsong if there are chirping birds, echo the sound of rain, gently mimic the engine of a car, bring the story to life for your little one and imagine their reactions.

Once the story is finished, take a few long deep breaths and enjoy just 'being' with your baby.

That brings us to the end of this sensory activity. We hope that the mindfulness session has been a relaxing and enjoyable experience for you and your baby.

The next resource in this series focuses on... the development of touch in the womb.