Exercise 1: Moving and feeling

a. The first activity requires calm and silence. Close your eyes and relax for a few moments. There will be an event during the silence. Discuss what has occurred.

b. For the second exercise you will need to take your pulse – a useful life skill. Make sure you are in sight of a watch or clock. The easiest way to take your pulse is to hold out your left arm, elbow bent, palm facing upwards. Relax your arm and raise your left thumb. Touch the blood vessels on your wrist (your radial arteries) lightly with the index and middle fingers of your right hand. If you cannot feel the pulse in your wrist, try touching the meeting point of the side of your jaw and neck (carotid arteries). Count the number of heartbeats in 30 seconds, multiply by two and make a note of the total.

Now listen to track 1 from the online audio library, a dance music track composed by Zack Moir. At the end of the track take your pulse again.

Has your pulse rate changed? If it has changed, why has it changed? Did the music change the way you feel in any way? Did it make you want to move?

Exercise 2: Auditory illusions

a. Listen to track 2a from the online audio library. This a violin string. We hear the 'open' string played in a normal manner, then the violinist runs a finger lightly along the string, sounding the 'harmonics'. The note of the open string is called the first harmonic, the next one above (an octave higher, i.e. the next note up that sounds the 'same') is called the second harmonic, and so on.

Are these ethereal sounds real 'notes'? Are they there the whole time? Do they form a pattern?

b. Listen to track 2b from the online audio library. These are harmonics produced from within the human voice. You may try it for yourselves – it is a party trick that never fails. Sing M-I-A-O-U-W very slowly on one note. Begin M-I- with a wide, tight grin and slowly move the lips forward to an exaggerated pout on O-U-W.

Can you hear the harmonics? How do they relate to the vowel sounds of miaouw?

c. Listen to track 2c from the online audio library. This is a long 'glissando' or musical 'slide' created by the French composer Jean-Claude Risset based on work of the American psychologist Roger Shepard.

Is this glissando infinitely long? If it is an illusion, how was it created?
Exercise 3: Music and healing

a. Listen to track 3a from the online audio library. 'Batonebo' is a 'healing song' from the Caucasus Mountains. It was originally intended to heal German measles, supposedly invoking the 'spirits of the Black Sea'. Although it may seem strange to us now, it is likely that all human cultures have at some point in the past used music as medicine. This beautiful Georgian melody is one of the very few examples remaining in Europe.

How would you describe this music? Is the idea that it can heal simply primitive superstition – a throwback from the dark past? Or is it indeed possible for music to help treat sick human beings?

There is now growing interest in the use of music in hospitals, ranging from recorded music and performances to help patients enjoy themselves and relax, to organised musical play with children to 'distract' them from their health problems and the experience of being in hospital. There is also an emerging body of work in music medicine, including work with chronic pain, Parkinson's disease (a degenerative disease that impairs movement and speech), palliative care (caring for symptoms rather than curing), dementia (decline of thinking skills through ageing) and other psychiatric problems.

Do you think this is likely to be an appropriate use of resources within the NHS?

b. Listen to track 3b from the online audio library. This is a recording of a music therapy session with Stephen, a boy with autism – a disorder that makes communication and emotional expression difficult. The session involves a technique called 'co-improvisation', where Stephen and his therapist (Jackie Robarts) improvise together at the piano and sing.

Can you follow the dialogue between Stephen and Jackie? Who is leading whom? What kind of communication is taking place? How would you describe its meaning?

Whereas music medicine depends largely on the presentation of performed or recorded music, often controlled or 'administered' by nursing staff, music therapy depends on the mediation of a clinically qualified music therapist.

Music therapy has proved particularly useful in helping deal with autism in children.

There have also been successes in the domain of mental health, for example in helping children who have been traumatised by conflict.

Exercise 4: Music and learning

a. The longest word in Shakespeare comes in a speech by Costard in Love's Labour's Lost, act V scene 1:

"O, they have lived long on the alms-basket of words! I marvel thy master hath not eaten thee for a word; for thou art not so long by the head as honorificabilitudinitatibus: thou art easier swallowed than a flap-dragon."

Try saying the word. Professional actors dread tripping up on it, and make a joke of it if they do. Here is a simple way to learn it. First of all clap a steady four-beat rhythm four times:

1 2 3 4 1 2 3 4 1 2 3 4

Now repeat the word with the clapping rhythm:

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Repeat.

Most people find the word much easier to learn through the rhythmic exercise.

Why is this? Is it simply because the word is split up? Or does the rhythm itself help us learn?
b. Listen to tracks 4a and 4b from the online audio library. The first example is an exercise to help children at risk of dyslexia (a difficulty with reading and writing that may affect people of all intellectual abilities) develop skills that may help them deal more easily with the written word. The exercise is demonstrated by adults. They are clapping twice then saying their names as they hit their knees.

Try it yourselves. How may an exercise like this be relevant to reading? Is there some connection between rhythm, learning and thinking?

The second example is the opening of the Allegro of Mozart’s Clarinet Quintet in A.

The French doctor Alfred Tomatis (1920–2001) used listening to Mozart as a way of approaching a number of physical and mental disorders. The American musician and psychologist Don Campbell has popularised the idea of the ‘Mozart effect’ – that listening to Mozart’s music may enhance concentration, learning, thinking and reasoning.

Do you think that listening to Mozart might help you learn and think? Or would it simply be an irritation?

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Exercise 5: Auditory hallucinations

a. This activity requires complete silence. Sit for a period of one minute and note down everything you can hear. This includes not only the sounds around you but also the sounds in your head – your breathing, maybe your heart, even perhaps whistling in your ears.

What did you hear? What did it mean to you?

b. Listen to tracks 5a and 5b from the online audio library. The first example is a piece for piano by Katrina Burton called ‘Moon Palace’. The opening is based on the sounds of her tinnitus (ringing in the ears caused, for example, by infection, medication or damage to the ear from loud noises).

The second example is by composer Luke Drummond. During a severe illness affecting his inner ear, Luke had a weird musical hallucination that he could hear a Beethoven string quartet. The piece is an attempt to recall the hallucination.

Have you ever heard an unexplained sound? Have you dreamt of sounds? Can you play music in your head so that it is almost real? Do you associate sounds with colours?