

Voice: general concepts and risk factors



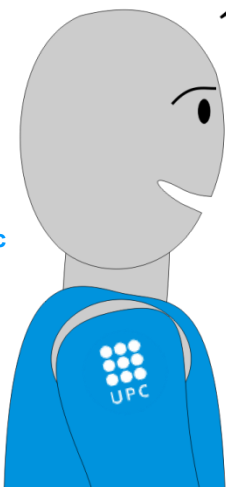
Make your voice work for you

VOICE AND THE ACOUSTIC QUALITIES OF SOUND

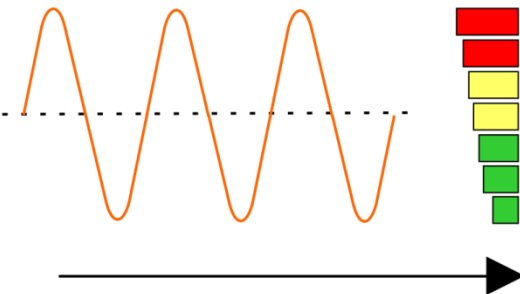
The voice has a range of acoustic qualities. These are directly related to body **posture**, **muscle tone** and **emotions**.

The voice is the means by which our words and thoughts are transmitted.

TIMBRE: particular, characteristic sound of a sound source



PITCH: high or low (high or low frequencies)



DURATION: time during which the sound is emitted

LOUDNESS OR VOLUME:

force with which the air passes through the larynx and makes the vocal cords vibrate.

Who uses their voice professionally?

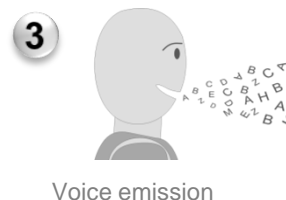
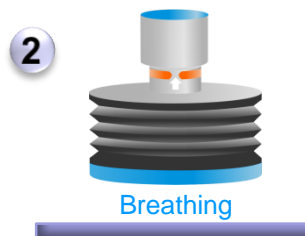
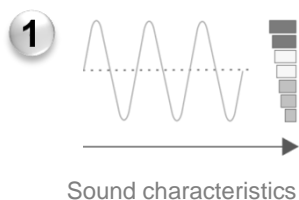
Those who use **their voice as a work tool** and as a primary means of executing their work.

The voice must be understood as a tool that needs **24-hour care**. (**Make your voice work for you!**)

Most changes in the voice are due to **strain** and **bad habits**, particularly talking too loudly.



Voice: general concepts and risk factors



The **loudness** (volume) of the voice varies according to the **force** with which **we exhale**.

BREATHING (inhalation and exhalation)

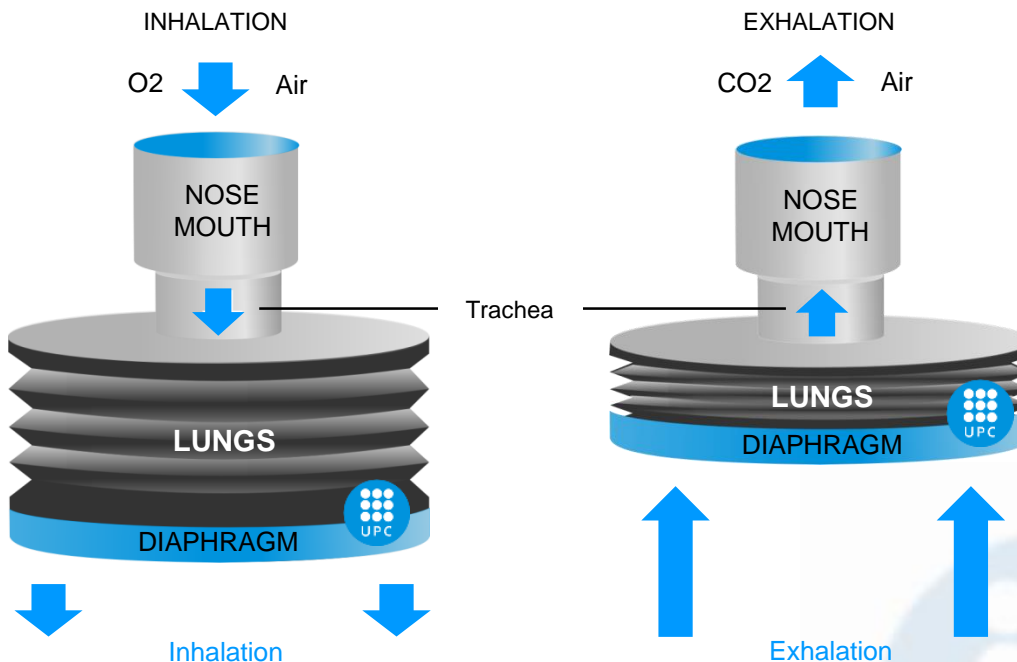
Breathing involves inhaling so that air fills the lungs and exhaling so that air is expelled outwards. This process is **necessary** for **voice emission**.

Lungs

During inhalation and exhalation, the lungs fill with air from the atmosphere (capturing oxygen) and are emptied (expelling carbon dioxide).

Diaphragm

The **diaphragm** is the main respiratory muscle, although many other muscles are involved in breathing.



The diaphragm contracts and descends, leaving room for the lungs to fill with air. The greater the inhalation, the greater the volume of air.

The diaphragm relaxes and air leaves the lungs. Depending on how hard the air is expelled, the voice will be louder or quieter (**loudness**).

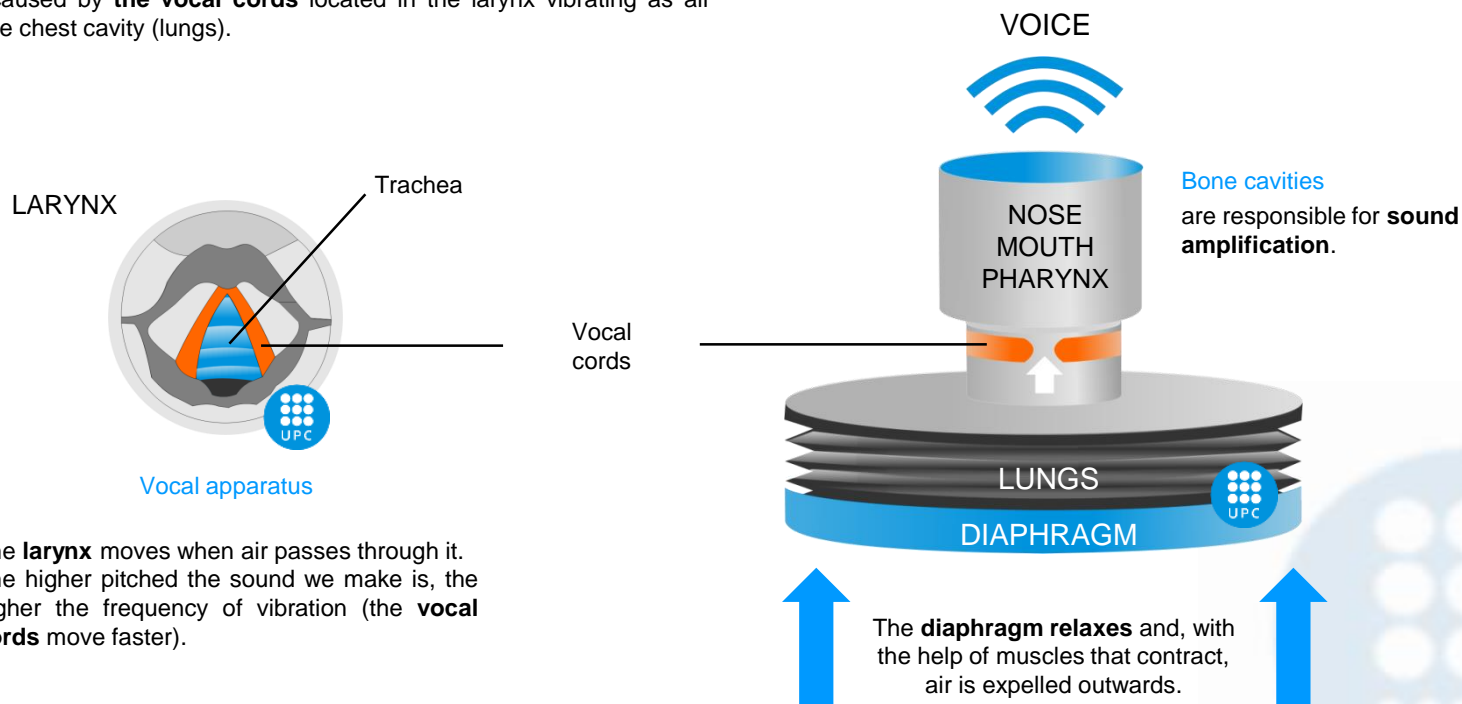
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The voice begins in the larynx when the air makes the **vocal cords** vibrate.

ELEMENTS INVOLVED IN USING THE VOICE

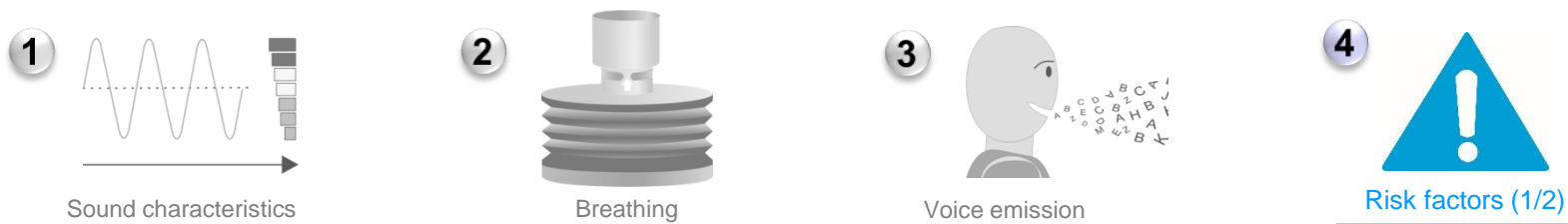
The voice is caused by **the vocal cords** located in the larynx vibrating as air passes from the chest cavity (lungs).



The **larynx** moves when air passes through it. The higher pitched the sound we make is, the higher the frequency of vibration (the **vocal cords** move faster).



Voice: general concepts and risk factors



Main **environmental risk factors** (related to temperature, humidity, ventilation and acoustics) that may affect the voice

The **risk factors** are circumstances or situations that can give rise to or increase the risk of voice disorders.

Environmental risk factors

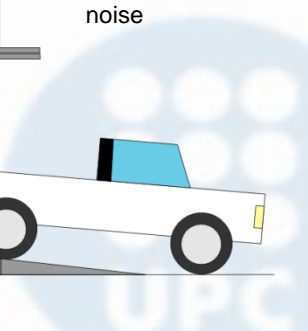
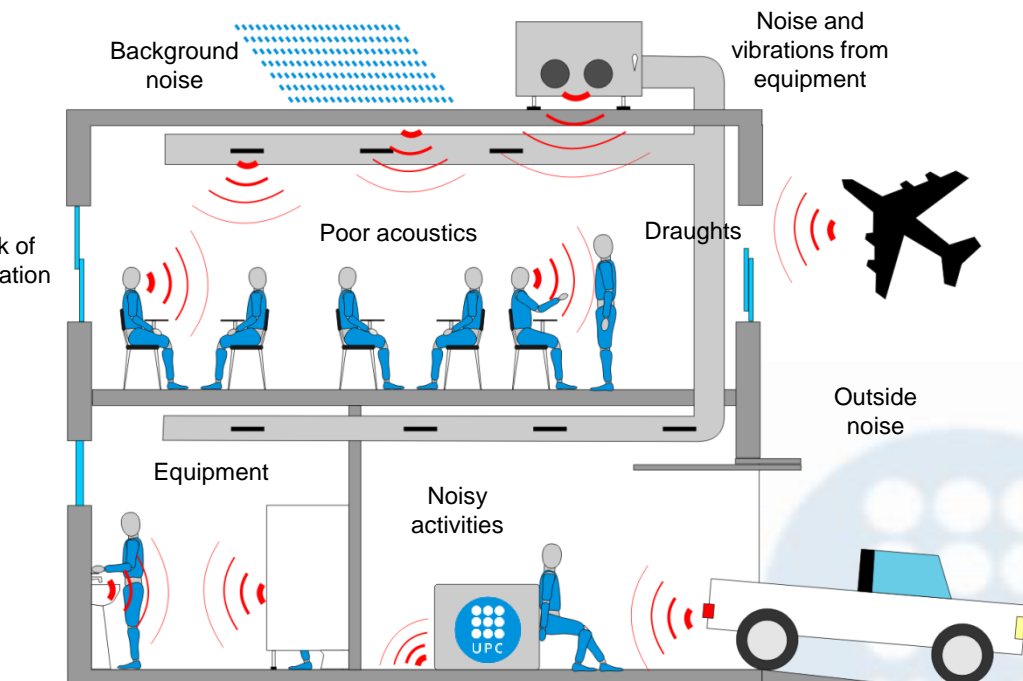
Environmental conditions that may have a negative effect on continued use of the voice:

Temperature, humidity and ventilation conditions:

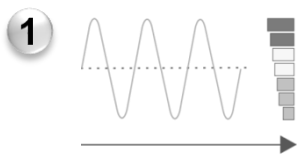
- **Temperature**
↓ 17°C ↑ 27°C
- **Relative humidity**
↓ 30% ↑ 70%
- **Draughts**

Acoustic conditions:

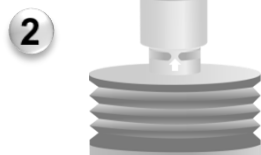
- **Poor acoustics:** this will make it difficult to hear and be heard and thus affect voice control.
- **Background noise** forces the person to talk more loudly in order to be heard.



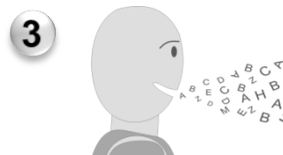
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Sound characteristics



Breathing



Voice emission

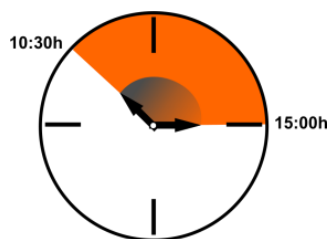


Risk factors (2/2)

Main organisational and personal risk factors that may affect the voice

Organisational risk factors

- Long working hours, **using the voice continuously** for periods of over **4 hours**.



- Lack of breaks that** contribute to vocal recovery.

- Lack of training** in a professional use of the voice.

Maintaining a healthy and effective voice

Risk factors: individual habits



- Toxic habits and nutrition:**
 - Tobacco and alcohol.
 - Excessive amounts of condiments, coffee and fat.
- Posture habits:**
 - Inadequate working postures.
 - Muscle tension.

