

Asthma

Written By: Rachel H. & Brenna C.
Illustrated By: Rachel H.

This is Frank. An average person, who has inherited Asthma from his mother's side.



Frank's lungs

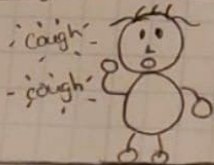
Right now his lungs are functioning normally. O_2 will travel to his lungs and then to the blood. The air contains CO_2 and is pushed out. During normal lung function, it takes about the same amount of time to inhale and exhale.

There are many triggers to an Asthma attack. One can be 2nd hand smoke, but can be genetic or environmental.



The second hand smoke triggers an asthma attack for Frank.

One can undergo many symptoms such as wheezing, coughing, or shortness of breath.

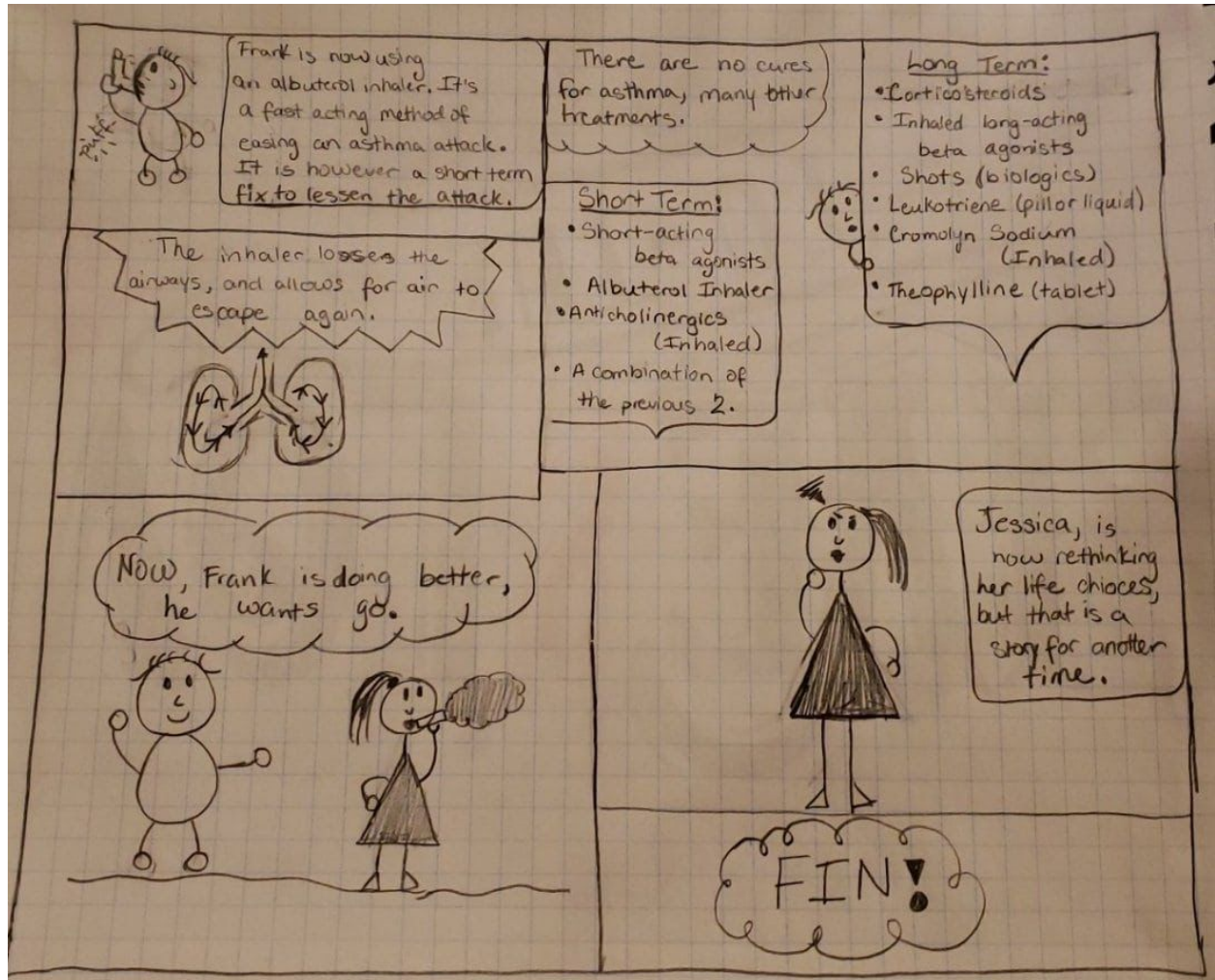


During an asthma attack, the muscle around the airways tighten. The lining inside the airways become thicker and is clogged with mucus, which leads to much thinner pathways for air. This traps air within the lungs, causing less and less air to be exhaled.



Frank is now reaching for the quickest method of reprieve from an attack.





Sources for Asthma Comic:

Asthma and Allergy Foundation of America. (2015, September). *AAFA*. Asthma and Allergy

Foundation of America. <https://www.aafa.org/asthma-treatment/>.

Mayo Foundation for Medical Education and Research. (2020, August 11). *Asthma*. Mayo Clinic.

<https://www.mayoclinic.org/diseases-conditions/asthma/symptoms-causes/syc-20369653>.


University of Virginia | School of Medicine. (2019, April 29). *Asthma Attacks*. Department of Pediatrics.

<https://med.virginia.edu/pediatrics/clinical-and-patient-services/patient-tutorials/asthma/asthma-attacks/>

DOWN SYNDROME


Written By: Rachel H. & Brienna C.
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Hi! I'm C-21-3, the 3rd pair of the 21st chromosome.

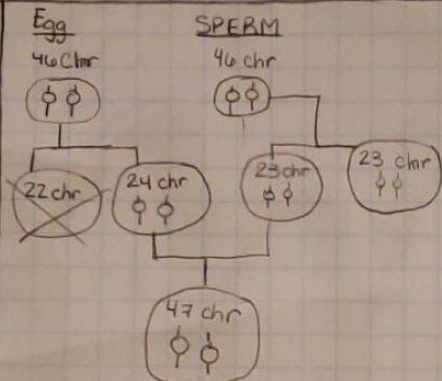


There are 3 types of Down Syndrome

- 1) Trisomy 21
- 2) Translocation
- 3) Mosaic




Egg 46 chr SPERM 46 chr



47 chr

I happened during cell division where an abnormality occurred, causing (me) extra genetic material, characteristic features, and development problems. All associated with Down Syndrome.



Let take a look . . .

1) Trisomy 21

- The most most common type where each cell has a 3rd copy of the 21st chromosome.

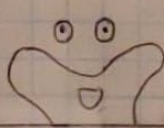
2) Translocation Down Syndrome

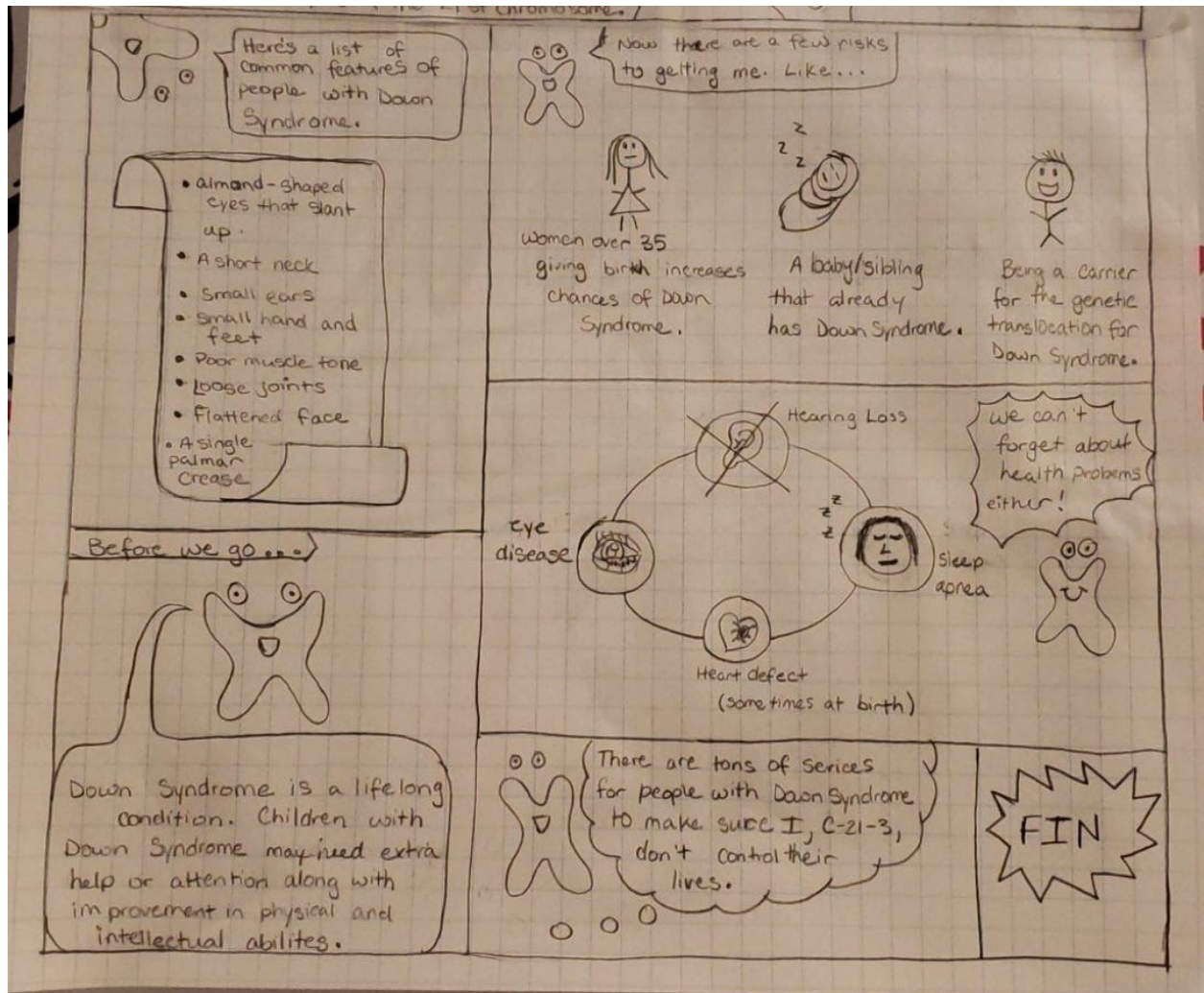
- It only affects about 3% of people with Down Syndrome. An extra part or whole chromosome 21 is present, but attached or "trans-located" to a different chromosome rather than being a separate chromosome 21.

3) Mosaic Down Syndrome *

- When some cells contain 3 copies of the 21st chromosome and some contain 2 copies.
- Only affects 2% of people with Down Syndrome.

* Hint: A child with Mosaic Down Syndrome is less likely to experience all symptoms of Down Syndrome as some cells do have 2 copies of the 21st chromosome.





Sources for Down Syndrome Comic:

Facts about Down Syndrome. (2019, December 5).

<https://www.cdc.gov/ncbddd/birthdefects/downsyndrome.html>.

Mayo Foundation for Medical Education and Research. (2018, March 8). *Down syndrome.* Mayo Clinic.

<https://www.mayoclinic.org/diseases-conditions/down-syndrome/symptoms-causes/syc-20355977>.