

# Immunotherapy: a targeted approach

Suitable from approx.  
**age 6+**

This activity can be done with individuals or small groups and requires a facilitator

## Aim

A simple visual game to illustrate immunotherapy as a more targeted therapy. The aim is to try and only pick up the “cancer cells”. When participants try to pick up silver paper clips, representing cancer cells, with a stronger magnet they will also remove lots of healthy cells (analogy for chemotherapy), whereas when they use the weaker/smaller magnet they will more easily be able to specifically target the cancer cells only (analogy for immunotherapy).

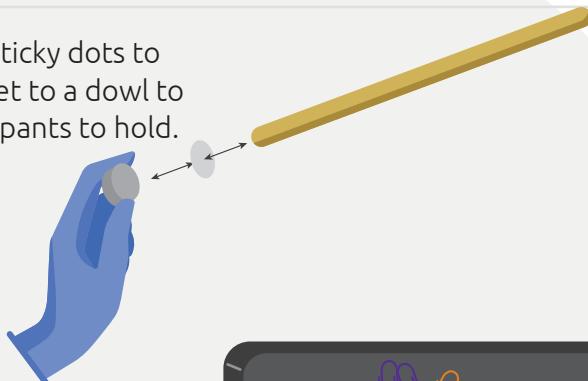
## Materials

- Flat tray
- Colourful paperclips (make sure they are attracted to magnets)
- Silver paperclips
- Strong magnet with big surface area (for example, [this magnet from Amazon](#))
- Weaker/smaller magnets with small surface area (for example, [these magnets from Amazon](#))
- Wooden dowls
- Double-sided sticky dots

## Set up

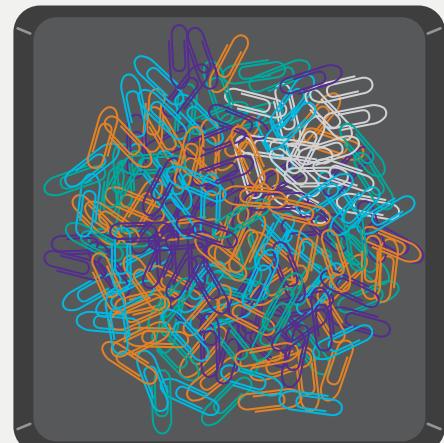
1

Use the double-sided sticky dots to attach the small magnet to a dowl to make it easy for participants to hold.



2

Spread the paperclips out in the flat tray - ensuring the coloured ones are spread all over the tray (healthy cells), but the silver ones are concentrated in one area to represent a tumour.



## Instructions

**1** Ask participants if they have heard of chemotherapy and immunotherapy before.

**2** Briefly explain the two treatments:

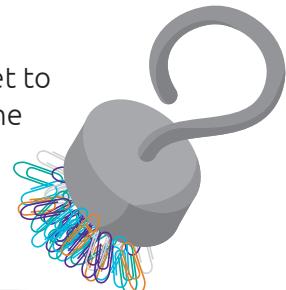
Chemotherapy is one of the most widely used types of cancer treatment. Patients are given a drug that contains powerful chemicals which kill fast-growing cells in the body. This is because cancer cells grow and multiply much more quickly than most cells in the body.

Immunotherapy is a newer type of cancer treatment that uses the power of the body's immune system to either attack cancer cells, boost immune cells, or enhance the immune system.

**3** Invite participants to play a game that shows how immunotherapy works.

**4** Give the participant the larger magnet and tell them the coloured paperclips represent all the different healthy cells in the body. Tell them the silver paperclips represent a tumour made up of cancerous cells.

**5** Ask them to try and use the magnet to pick up and get rid of as much of the tumour as they can.



**6** Once they have done so, count how many cancer cells they removed and how many healthy cells they removed in the process.

**7** Explain how chemotherapy works to remove fast-growing cells. Like this large magnet, chemotherapy can target lots of the cancer cells but picks up some healthy cells along the way.

**8** Put the paperclips back in the tray (you might have to move them around with your hands to make sure they are not magnetised to each other).

**9** Next give the participant the wooden dowel with the smaller magnet attached. Tell them it represents immunotherapy treatments which are more targeted.

**10** Ask them to try again to remove the cancerous cells, this time using the "immunotherapy magnet"



**11** Once they have finished, count the paperclips again and compare the results.

**12** Discuss how immunotherapy works to more precisely target only the cancer cells. Explain how as a result of targeting only the cancer cells the side effects tend to be much less severe than other types of treatment.