Immunotherapy: a targeted approach

<table>
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<th>Suitable from approx. age 6+</th>
<th>This activity can be done with individuals or small groups and requires a facilitator</th>
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**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 dowsls
- 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.

*Turn over for instructions...*
Ask participants if they have heard of chemotherapy and immunotherapy before.

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.

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

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.

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

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

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.

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).

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

Ask them to try again to remove the cancerous cells, this time using the “immunotherapy magnet”

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

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.