Early treatment with prednisolone or acyclovir in Bell's palsy.

Full reference and link to full text of paper
Sullivan FM, Swan IR, Donnan PT, Morrison JM, Smith BH, McKinstry B, Davenport RJ, Vale LD, Clarkson JE, Hammersley V, Hayavi S, McAteer A, Stewart K, Daly F. Early treatment with prednisolone or acyclovir in Bell's palsy. *N Engl J Med.* 2007; 357:1598-607.
https://www.nejm.org/doi/10.1056/NEJMoa072006?url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org&rfr_dat=cr_pub%3Dwww.ncbi.nlm.nih.gov

Summary
At the time of the study both corticosteroids (e.g. prednisolone) and antivirals (e.g. acyclovir) were in use as early treatments for idiopathic facial paralysis which is known as Bell's palsy. This is a relatively common condition and an average general practice will usually see at least one case per year. This paper describes a randomised controlled trial investigating the effectiveness of these two treatments, both alone and in combination. This meant that patients were randomised into one of four different treatment groups: Both acyclovir and prednisolone, prednisolone plus placebo, acyclovir plus placebo, and double placebo. This trial was double blinded, meaning that neither patients nor doctors knew which group the patient was in. Most patients were recruited from general practices whereas previous trials mainly recruited through hospitals.

This trial found that more patients in the prednisolone groups recovered facial function than those not treated with prednisolone, at both 3 months (83.0% with prednisolone vs 63.6% without, P<0.001) and 9 months. Treatment with acyclovir made no significant difference over placebo. The paper helpfully gives the number of patients who would need to take prednisolone to achieve one additional recovery at 3 months as being 6 patients. There is also some quite good news for patients- even without active treatments (placebo group), 64.7% of patients recovered fully by 3 months and 85.2% by 9 months.

PICO
Population: 496 adult patients, in Scotland, with Bell's palsy recruited within 72 hours of symptom onset.
Intervention: 10 day treatment with acyclovir, prednisolone or both.
Control: 10 day treatment with placebo.
Outcomes: Recovery of facial function at 3 months and at 9 months.

Key Researcher
Professor Frank Sullivan has been an academic GP since 1984. At the time of the study, he was at the University of Dundee. From 1998- 2014 he was the NHS Tayside professor of R&D in General Practice and Primary Care. From 2014-17 he was the inaugural Gordon F. Cheesbrough Research Chair at North York General Hospital and director of the University of Toronto's Practice Based Research Network: UTOPIAN. He was appointed as the Professor of Primary Care Medicine in the University of St. Andrews in 2017. He was elected a Fellow of the Royal Society of Edinburgh in 2011- the first family physician since 1908.

Images
This link has images of BBC correspondent John Sudworth with Bell's Palsy and during recovery.
https://www.bbc.co.uk/news/magazine-24802323

Impact
The result and recommendations from this study are included in NICE guidelines. This paper had been cited 290 times by the end of 2018. Antiviral medications are no longer recommended. It also

won the RCGP Research Paper of the Year Award for 2007 (link here with an interesting short commentary: https://bjgp.org/content/58/552/520.1). The study was also reported on by BBC local news (article here: http://news.bbc.co.uk/1/hi/scotland/tayside_and_central/7045375.stm)

Thinking points

1. The New England Journal of Medicine is the highest ranking general medical journal (based on impact factor which counts citations) in the world.
2. Most patients were recruited from general practices which the researchers consider an advantage over previous trials as it reduces selection bias. If trials recruit mainly within hospitals, they are likely to get only the most extreme cases which get referred.
3. Randomisation was through an independent, secure, automated telephone service which again helps prevent bias. Some early trials had potential problems with sequential randomisation or envelopes as recruiters could work out the sequence and deliberately or subconsciously end up making sure that the "best" patients went to the "right" arm of the trial.
4. The placebo was packaged identically to the active medications and only hospital pharmacists and the manufacturer had the codes telling them which was which.