Study details	Patients	Interventions	Outcome measures	Effect size	Comments
Author & Year: Cittadini et al, 2006[151] **Study design:** RCT, 3 armed crossover **Comparison:** Triptan vs Placebo **Setting:** Germany, Italy, UK **Duration of follow-up:** 3 attacks (30 min for assessment)	**Patient group:** Cluster headache patients between 18 – 65 years **Inclusion criteria:** Established diagnosis of CH according to IHS. Required to have CH attacks lasting at least 45 minutes when untreated. Patients should have used Zolmitriptan in the past, zolmitriptan naive patient were included if in the investigators opinion it was safe to do so. **Exclusion criteria:** Patients unsuitable for zolmitriptan tablet or nasal spray use in the country that the study was being conducted according to regulatory use in that country. Patients with 2 or more of the following risk factors were also excluded: cardiovascular disease, patients using regular ergotamine derivatives or analgesics, and patients with ENT disorders that would preclude use of intranasal zolmitriptan **All patients** **N:** 92 **Age (mean):** 40+/-10 **Drop outs:** 34 **Sex M/F:** 80/12 **Headache type:** Episodic 59, Chronic 33	**Group 1 Zolmitriptan 5 mg** (nasal spray) **Group 2 Zolmitriptan 10 mg** (nasal spray) **Group 3 Placebo** Patients asked to treat 3 attacks at least 24 hours apart with study medicine. Patient to apply one dose of study drug to contralateral nostril when the headache had reached at least a moderate severity. Escape medication allowed at 30 minutes using oxygen or an analgesic, not a ergotamine or triptan derivative	**Headache response** (up to 2 hours) At 30 minutes Reduction from moderate, severe or very severe to mild or no pain.	**Group1:** 27/65 (42%) **Group 2:** 38/63 (60%) **Group 3:** 14/61 (23%) **p value:** 0.002	**Funding:** AstraZeneca supported the work. They provided the study medication, matching placebo and randomisation schedule. They did not initiate, design or analyse the study; interpret the data or have any role in writing the manuscript. **Limitations:** Method of randomisation and allocation concealment not stated **Additional outcomes:** Headache response at 5, 10, 15, and 30 minutes. Pain free at 30 minutes Percentage of patients reporting improvement in associated symptoms. **Notes:** Frequency of escape medication use: Group 1: 23/65 (35.4%) Group 2: 17/63 (27%) Group 3: 30/61 (49.2%)
			Reduction in pain at 30 minutes Assessments made at 5, 10, 15, and 30 minutes.	**Group1:** 27/65 (42%) **Group 2:** 38/63(60%) **Group 3:**12/61(20%) **p value:** NR	
			Adverse events	No serious adverse events were reported. One important adverse effect that led to withdrawal occurred in one patient (shortness of breath, vomiting and rheumatic pain)	

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	Duration of bout, week (mean): 8+/-6 **Headache history, yrs (mean):** 12+/-7 **Previous use of**: Sumatriptan injection 67, Sumatriptan nasal spray 40, Zolmitriptan oral 18, Oxygen: 72 **Group 1** **N:** 65 **Age (mean):** NR for any group **Drop outs:** NR for any group **Group 2** **N:** 63 **Group 3** **N:** 61				

Abbreviations: NR=not reported, NA=not applicable, M/F=male/female, N=total number of patients randomised, SD=Standard deviation, SE=Standard error, ITT=Intention to treat analysis, CH=cluster headache, IHS=International Headache Society

Study details	Patients	Interventions	Outcome measures	Effect size	Comments
Author & Year: Cohen et al, 2009[157] **Study design:** Randomised, placebo controlled double blind crossover. **Comparison:** 100% Oxygen Vs Placebo (Air) **Setting:** Clinics from the national hospital for neurology, London and patients identified through support groups (OUCH-UK) **Duration of**	**Patient group:** 18-70 years, with either episodic or chronic cluster headache **Inclusion criteria:** Episodic or chronic cluster headache classified using 1st edition of ICHD; experienced between 1 attack every other day to 5 a day (duration of attacks between 45 minutes and 3 hours), between the ages of 18-70 years **Exclusion criteria:** Chronic migraine or other episodic headaches (if they could be distinguished from cluster headaches); were pregnant and lactating; had moderate to severe chronic obstructive pulmonary disease; could not tolerate the oxygen mask in the correct fitting; had previously tried oxygen at doses of 4 L/min and higher. **All patients** Unless stated values are mean(SD) **N:** 109 **Age:** 39 (9) **Drop outs:** 33 **Sex n(%):** M 89 (82) F 20 (18) **Type of cluster headache (n):** Episodic: 81(74) Chronic: 28(26) **Attack duration, min:** 83 (31) (n=81) **Average bout duration, episodic cluster headache per week:** 11 (16) **Cluster headache history, years:** 12.3 (9.1) **Previous use, No.:** Sumatriptan injection: 30,	**Group 1- 100% Oxygen** 100% oxygen delivered at 12 mL/min. For 15 minutes from the early part of an attack **Group 2- Air** Air delivered at 12 mL/min. For 15 minutes from the early part of an attack Patient received 2 cylinders: one labelled “treatment 1” and one labelled “treatment 2” Patients instructed to administer a single treatment for any attack using “treatment 1” at 12 mL/min for 15 minutes through a firm plastic non-re breathing facial mask and use the treatment 2 cylinder at the same rate and duration for the next attack, then switching again for the next 2 attacks (alternating cylinders in crossover fashion) If after 15 minutes of treatment there was no relief the patient could take rescue medication. All patients taught how to use compressed air cylinder and received diary cards to record treatment effect at 5, 10, 15, 30 and 60 minutes.	**Headache response up to 2 hours** Reduction in pain at 60 minutes **Reduction in pain scale** at 30 min **Adverse events**	**Group1:** 95/103 (92%) **Group 2**: 38/64 (59%) **p value:** NR **Group1:** 93/109 (85%) **Group 2:** 28/74 (38%) **p value:** NR 9 (no data for separate groups) 4 not related to trial 2 possibly related to trial, 1 probably not and 2 were related to the trial.	**Funding:** University college London and BOC Limited (supplied cylinders and masks) **Limitations:** Rescue medication allowed after 15 minutes – could affect outcomes. Use differed between groups (see notes) **Additional outcomes:** Overall response to the treatment and overall functional disability. Effect on associated symptoms. **Notes:** Need for rescue medication from 15 mins (No. Of attacks): Group1: 30/249 (28%) Group 2: 76/ 249 (53%) Pain scale: 0= pain free, 1=mild, 2= moderate, 3=severe, 4= very severe. Randomisation: opaque sealed envelopes containing

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follow-up: 4 attacks (Maximum of 5 years)	Sumatriptan intranasal or oral: 16, Other triptans: 12, Other analgesics: 23, Low-flow oxygen (<4 L/min): 4, No documented previous cluster headache medications: 31 (n=28) **Patients taking preventative medcations:**4 **Group 1: 100% Oxygen** **N:** 40 **Age (mean):** NR **Drop outs:** 2 **Group 2: Air** **N:** 36 **Age (mean):** NR **Drop outs:** 1				cards labelled “A” or “B” ITT analysis of 57 patients with episodic cluster headache and 19 with chronic cluster headache Multilevel multivariate analysis used to account for the fact that attacks not strictly independent.

Abbreviations: NR=not reported, NA=not applicable, M/F=male/female, N=total number of patients randomised, SD=Standard deviation, SE=Standard error, ITT=Intention to treat analysis, ICHD=International Classification of headache disorders

Study details	Patients	Interventions	Outcome measures	Effect size	Comments
Author & Year: Ekbom et al, 1991[253] **Study design:** RCT crossover **Comparison:** Sumatriptan 6mg vs placebo **Setting:** 12 hospital neurology departments in Denmark, France, Poland and Sweden **Duration of follow-up:** 2 subsequent attacks	**Patient group:** Cluster headache patients 18-65 years **Inclusion criteria:** History of episodic or chronic cluster headache according to IHS. And if untreated attacks typically lasted 45 minutes or more. **Exclusion criteria:** Regular use of narcotic analgesic drugs, currently taking ergotamine or had taken it within the previous year, pregnant or nursing women. Women not using adequate contraception and patients with any of the following: history suggestive of ischaemic heart disease, peripheral vascular disease, severe hypertension, mild to moderate hypertension being treated with a calcium antagonist or b-adrenergic antagonist drug, epilepsy, renal, hepatic or heart disease or serious psychiatric illness. **All patients** **N:** 49 **Age (mean):** 42+/-10 **Drop outs:** 10 **Sex M/F:** 31/8 **Headache type:** Chronic 17, Episodic 22 **Frequency of attacks during cluster**	**Group 1 - Sumatriptan 6mg (s.c)** **Group 2 - Placebo** All patients hospitalised once they entered a cluster period. First injection usually given after 1 or 2 days of hospitalisation. One group received sumatriptan for first attack and placebo for second, the other group received placebo for first attack and sumatriptan for second. Each injection administered s.c. by a physician or nurse and had to be given within 10 minutes of the onset of an attack. Minimal interval between study injections was 24 hours, the longest interval was 9 days. If a patient had an attack in this 24 hour period they were permitted to use medication that did not contain ergotamine. If medication was administered then patients had to wait another 6 hours after simple analgesic, or 24 hours after taking opiates before second study injection could be administered.	**Headache response:** Relief of pain from moderate, severe or very severe to mild or no pain (15 minutes) For group 2 only % stated in paper. **Adverse Events** Denominator= number of attacks. Figures given in % in paper.	**Group1:** 29/39 (74%) **Group 2:** 10/39 (26%) **95% CI:** NR **p value:** <0.001 **Group1:** 17/49 (35%) **Group 2:** 12/47 (26%) **p value:** NR	**Funding:** NR **Limitations:** Denominator used in headache response- number of patients (after dropouts) or number of attacks?) **Additional outcomes:** Efficacy of pain relief 5 and 10 minutes after injection. Need for rescue medication. Pain free at 30 minutes. Decrease in functional disability. Patients response at 5, 10, 15, 20, 25, 30, 60, 90 and 120 minutes. **Notes:** Assessed and randomly assigned to one of two groups. Rescue medication allowed: 100% oxygen (7L/min) allowed at 5 minutes, simple analgesics allowed after 120 minutes. Using oxygen at 15 minutes:

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	period: 1 every other day: 4-1 per day: 8, 2-8 per day: 27 **Usual duration of headache without medication**: 45-60 mins: 18, 60-90 min: 11, 90-180 min: 9 **Usual response of headache to oxygen:** response: 10, no response: 6, no experience: 23 **Group 1** **N:** 49 **Age (mean):** NR **Drop outs:** NR **Group 2** **N:** 49 **Age (mean):** NR **Drop outs:** NR				Group 1: 13% Group 2: 49%

Abbreviations: NR=not reported, NA=not applicable, M/F=male/female, N=total number of patients randomised, SD=Standard deviation, SE=Standard error, ITT=Intention to treat analysis, sc=subcutaneous

Study Details	Patients	Interventions	Outcome measures	Effect size	Comments
Author & Year: Ekbom et al, 1993[252] **Study design:** RCT crossover **Comparison:** Triptan vs Placebo **Setting:** Multicentre **Duration of follow-up:** 2 attacks	**Patient group:** Cluster headache patients 18-65 years. **Inclusion criteria**: History of episodic or chronic cluster headache meeting criteria of IHS, typical duration of 45 minutes or more when untreated. Patients who had not previously received sumatriptan. **Exclusion criteria:** Abused or regularly used narcotic analgesic drugs, currently or within the last year abusing ergotamine, pregnant or nursing. Women not using adequate contraception. Any of the following: history suggestive of ischaemic heart disease, peripheral vascular disease, severe hypertension, mild to moderate hypertension being treated with a calcium antagonist or b-adrenergic antagonist, epilepsy, renal, hepatic or heart disease or serious psychiatric illness. **All patients*** **N:** 157, **M/F**: 116/ 18 **Age (mean):** 41 **Drop outs:** 23 **Headache type:** Episodic 97,	**Group 1 Sumatriptan 6mg (s.c)** **Group 2 Sumatriptan 12mg** **Group 3 Placebo** All patients hospitalised for the study. Following clinical assessment the patients were assigned to one of 6 treatment sequence groups. Each patient received two of the three possible study treatments. Patients received s.c. injection of one of the study drugs within 10 minutes of onset of attack of at least moderate severity. Interval of at least 18 hours between treatment of attacks with study drugs. Second attack treated with second assigned study drug in sequence.	**Headache response** (headache relief at 15 minutes) From moderate, sever or very sever to mild or no pain Values are number of attacks (figures calculated from %)	**Group1:** 69/92 (75%) **Group 2:** 70/88 (80%) **Group 3:** 30/88 (35%)	**Funding:** Not stated **Limitations:** 21 patients received only 1 treatment. *patient demographics based on 134 included in efficacy analysis (all patients who treated 2 headaches). **Additional outcomes:** Global response to medication. Functional disability. **Notes:** Rescue medications: 100% oxygen (7L/min for 15 min) administered if no relief after 15 minutes, simple analgesic drugs allowed after 120 minutes for patients who required further medication. Randomisation generated by computer in blocks of 6; each block contained each of the 6 treatment sequences in random order. Patients were enrolled and assigned sequence, in ascending sequential order of patient number at each centre.
			Adverse events Safety data based on different number of attacks than efficacy data (figures calculated from %)	**Group1:** 34/101 (33.6%) **Group 2:** 42/94 (44.7%) **Group 3:** 15/96 (15.6%)	

Study Details	Patients	Interventions	Outcome measures	Effect size	Comments
	Chronic 37 **Frequency of attacks during cluster period:** 1 every other day 15, 1 per day 39, 2-8 per day 77, >8 per day 3 **Usual response of headache to oxygen:** response 32, no response 20, no experience 82				

Abbreviations: NR=not reported, NA=not applicable, M/F=male/female, N=total number of patients randomised, SD=Standard deviation, SE=Standard error, ITT=Intention to treat analysis, sc=subcutaneous

Study details	Patients	Interventions	Outcome measures	Effect size	Comments
Author & Year: Fogan, 1985[275] **Study design:** RCT, crossover **Comparison:** Compressed room air vs 100% oxygen **Setting:** Department of neurology, UCLA, USA **Duration of follow-up:** 12 attacks (6 attacks to be treated with each intervention)	**Patient group:** Male cluster headache patients. **Inclusion criteria:** Males suffering from cluster headaches, aged between 20 and 50. **Exclusion criteria:** NR **All patients** **N:** 19 **Age (mean):** NR **Drop outs:** 8 **Group 1** **N:** 16 **Age (mean):** NR **Drop outs:** 4 **Group 2** **N:** 14 **Age (mean):** NR **Drop outs:** 2	**Group 1 100% oxygen** **Group 2 compressed room air** All patients instructed to breathe at a normal respiratory rate via a non rebreathing mask at a flow of 6 L/min, for up to 15 minutes. If the headache continued beyond that time he was to switch off the cylinder, and was allowed to take a short acting analgesic. Treatments crossed over after 6 individual cluster headaches were treated. Patients instructed to complete a questionnaire for each headache treated concerning: date, time, time first breathed from the cylinder, time first noted any effect on the intensity of the pain, and time the gas flow stopped, quality of headache relief, evaluation of pain relief.	**Reduction in pain at 30 minutes** (Pain relief scores at 15 minutes (mean+/-SE)) 0= no relief 1= slight relief 2=substantial relief 3= complete relief	**Group1:** 1.93 +/-0.22 **Group 2**: 0.77+/-0.23 **p value:** NR Maximum likelihood F ratio calculated for this study. Statistically significant difference between relief scores of the air and oxygen treatments ($p<0.01$, $F=11.50$, $df=1$) SE paired= 0.91 Ln RR paired= 1.79	**Funding:** NR **Limitations:** Validation of diary: used a different pain relief scale. Patients all male 11/19 patients evaluated both gases **Additional outcomes:** n/a **Notes:** Physician and patient blinded. Adequate allocation concealment. Contents of cylinder only known to the inhalation department.

Abbreviations: NR=not reported, NA=not applicable, M/F=male/female, N=total number of patients randomised, SD=Standard deviation, SE=Standard error, ITT=Intention to treat analysis, df=degrees of freedom, RR=risk ratio

Study details	Patients	Interventions	Outcome measures	Effect size	Comments
Author & Year: Kudrow, 1981[459] **Study design:** RCT crossover **Comparison:** Ergotamine tartrate (sublingual) Vs Oxygen **Setting:** California medical clinic for headache **Duration of follow-up:** NR	**Patient group:** NR "50 patients" **Inclusion criteria:** Not stated explicitly. Chronic or episodic cluster headache **Exclusion criteria:** NR **All patients** **N:** 50 **Age (mean):** 44 **Drop outs:** NR **Group 1** **N:** 25 **Age (mean):** 42 **Drop outs:** NR **Sex M/F**:22/3 **Cluster headache type**: Episodic: 16, Chronic: 9 **Group 2** **N:** 25 **Age (mean):** 46 **Drop outs**: NR **Sex M/F:** 20/5 **Cluster headache type:** Episodic: 20, Chronic: 5	**Group 1 100% Oxygen.** At onset of attack instructed to breathe oxygen at a rate of 7L/ min for 15 minutes whilst sitting upright in a chair. To treat a total of 10 attacks, noted the time of onset of oxygen inhalation, and the time of complete or almost complete relief of headache **Group 2 Sublingual ergotamine tartrate.** Allowed every 15 minutes for a maximum of 3 tablets if necessary. Record keeping similar to group 1. At the end of the 10 attack period patients from both groups reported to the clinic where they crossed over to the other treatment Prophylactic medication withheld from both groups.	Complete or almost complete cessation of head pain within 15 minutes for at least 7/10* attacks. *table heading states 8/10 attacks-inconsistency.	**Group1:** 41/50 (85%) **Group 2:** 35/50 (70%) **p value:** NR	**Funding:** NR **Limitations:** Doesn't state length of crossover period (first period was 10 attacks) Patients could use prophylactic medication throughout trial. Randomisation, allocation concealment and blinding NR **Additional outcomes:** Comparative success of oxygen and ergotamine treatment in chronic and episodic subgroups: Significant difference between episodic oxygen treated and chronic ergotamine treated p<0.01

Abbreviations: NR=not reported, NA=not applicable, M/F=male/female, N=total number of patients randomised, SD=Standard deviation, SE=Standard error, ITT=Intention to treat analysis

Study Details	Patients	Interventions	Outcome measures	Effect size	Comments
Author & Year: Rapoport et al, 2007[654] **Study design:** RCT crossover **Comparison:** Triptan vs Placebo **Setting:** 4 headache centres in the US **Duration of follow-up:** 3 attacks	**Patient group:** Patients with cluster headache aged 18-65 years. **Inclusion criteria:** Diagnosis of episodic or chronic cluster headache meeting criteria of IHS. Cluster attacks with minimum duration of 45 minutes untreated. Patients using ergotamine compounds or triptans for the acute treatment of cluster headachewere allowed into the trial if they agreed to discontinue these before randomisation. **Exclusion criteria:** Contraindications to the use of triptans, patients using ergotamine derivatives as a preventative therapy, patients in use of methysergide, and patients with major depression or other serious condition that would preclude entry to study. **All patients** **N:** 78 (52 treated) **Age (mean):** 45.2+/-11.2 **Drop outs:** 17 **M/F:** 31/14 **Headache type:** Episodic 37, Chronic 15	**Group 1 Zolmitriptan 5mg (nasal)** **Group 2 Zolmitriptan 10mg** **Group 3 Placebo** Each of the three treated attacks had to be separated from each other by at least 24 hours. Immediately after assessing the pain of an attack (using a questionnaire with a 5 point scale), subjects were instructed to apply one spray of the study medication in each nostril when the headache reached at least moderate severity. Assessments made at at 5, 10, 20, 15, 30, 60 minutes post-dose. 3 attack crossover (each treatment used once).	**Headache response** at 30 minutes number of attacks (ITT- number who treated at least 1 attack) (reduction from moderate, severe or very severe to mild or no pain) Events calculated from % given in paper	**Group1:** 26/52 (50%) **Group 2:** 33/52 (63.3%) **Group 3:** 16/52 (30%)	**Funding:** Study medication and placebo were supplied by AstraZeneca. **Limitations:** Allocation concealment unclear. **Additional outcomes:** Pain free at 15 minutes. **Notes:** Escape medication was allowed at 60 minutes post-dose and included oxygen, lidocaine, or an analgesic (not a triptan or ergotamine derivative). Use of rescue medication: (based on number of attacks treated) Group 1: 16/52 (30%) Group 2: 15/52 (28%) Group 3: 20/52(38%) Randomly assigned to treatment sequence in balanced blocks with equally probability for each treatment sequence. Randomisation generated by person blinded to all other procedures using random number generator program.
			Adverse events Number of patients with adverse events calculated from % given in paper (based on ITT population of 52)	**Group1:** 21 events, (13/52 patients, 25%) **Group 2:** 30 events (17/52 patients, 33%) **Group 3:** 12 events (8/52 patients, 16%)	

Abbreviations: NR=not reported, NA=not applicable, M/F=male/female, N=total number of patients randomised, SD=Standard deviation, SE=Standard error, ITT=Intention to treat analysis, IHS=international headache society

Study details	Patients	Interventions	Outcome measures	Effect size	Comments
Author & Year: Sicuteri et al, 1984[722] **Study design:** RCT crossover **Comparison:** Ergot vs Placebo **Setting:** Inpatient **Duration of follow-up:** 3 headache attacks	**Patient group:** Hospitalised males with cluster headache **Inclusion criteria:** Established diagnosis of cluster headache. **Exclusion criteria: NR** **<u>All patients</u>** **N:** 8 **Age (mean):** 36.2 **Drop outs:** 0	**Group 1**Somatostatin (infusion):(Treatment B) 1 mL saline i.m; 25 ug somatostatin in 2.5 mL saline/ min for 20 mins **Group 2** Ergotamine (i.m): Treatment C) 250 ug ergotamine tartrate i.m; 2.5 mL saline/min for 20 min **Group 3** Placebo: (Treatment A) 1mL saline i.m; 2.5 mL saline/ min for 20 min) Each patient treated 3 times with each treatment. The order of treatment was random. Patients administered treatment 10 minutes after the onset of the painful attack an i.m. injection was administered and a 20 minute infusion was started.	**Time to freedom from pain** (Minutes, mean). Mean of 3 administrations of each drug to each patient	**Group1:** 65.6 **Group 2:** 55.8 **Group 3:** 93.3	**Funding:** Pain research commission of the Austrian academy of sciences, Austrian scientific research fund, Italian National research council. **Limitations:** Randomisation and allocation concealment NR **Additional outcomes:** Maximal pain intensity (VAS). Pain area. **Notes:** Double blind. Double dummy technique used.

Abbreviations: NR=not reported, NA=not applicable, M/F=male/female, N=total number of patients randomised, SD=Standard deviation, SE=Standard error, ITT=Intention to treat analysis, IHS=International Headache Society, i.m= intramuscular

Study details	Patients	Interventions	Outcome measures	Effect size	Comments
Author & Year: van Vliet et al, 2003[818] **Study design:** RCT crossover **Comparison:** Triptan vs Placebo **Setting:** US, UK, Netherlands **Duration of follow-up:** 2 attacks	**Patient group**: Cluster headache sufferers aged 18 to 65 years **Inclusion criteria:** Established diagnosis of cluster headache according to IHS criteria. Cluster attacks with minimum duration of 45 minutes untreated. **Exclusion criteria:** Patients with 2 or more of the risk factors for cardiovascular disease, patients using ergotamine or analgesics regularly, or patients who were on prophylaxis with lithium or methysergide. Women who were pregnant or breastfeeding. ENT disorder that would preclude use of intranasal sumatriptan. Serious adverse event when using triptans in the past. **All patients** **N:** 118 **Age (mean):** 43+/-11 **Drop outs:** 33 **M/F:** 97/21 **Headache type:** Episodic 89, Chronic 29 **History of cluster headache (yrs):** 13+/-9 **Average duration of bout, wk:** 8+/-5 **Previous use of sumatriptan:** oral 33, injection 53, nasal 6	**Group 1 Sumatriptan 20mg (nasal spray)** **Group 2 Placebo** Patients instructed to treat 2 attacks, at least 24 hours apart with either sumatriptan or placebo in a randomised order. Grade attacks on 5 point scale, apply study drug in contralateral nostril when headache graded as at least moderate in severity. Subsequent assessments at 5, 10, 15, 30 minutes.	**Headache response** (at 30 minutes) Reduction in headache from moderate, severe, or very severe to mild or nil	**Group1:** 44/77 (57%) **Group 2:** 20/77 (26) p value: 0.002 *see limitations	**Funding:** Glaxosmithkline **Limitations:** Randomisation and allocation concealment NR Confusion between number of attacks and no of patients in paper. Values given as no. of patients with headache response/ no. of attacks. **Additional outcomes:** Associated symptoms. Meaningful relief. **Notes:** Escape medication was allowed at 30 minutes post dose, usually oxygen or an analgesic, but not a triptan or ergotamine derivative.
			Time to freedom from pain (stated as time to initial relief in paper) (Minutes)	**Group1:** 12.4+/-6 **Group 2:** 17.6+/-12 **p value:** 0.01	
			Adverse events:	No serious adverse events. Two patients using sumatriptan reported chest pressure after using the spray. Most frequently reported adverse event was bitter taste (21 % sumatriptan and 1% of placebo)	

Abbreviations: NR=not reported, NA=not applicable, M/F=male/female, N=total number of patients randomised, SD=Standard deviation, SE=Standard error, ITT=Intention to treat analysis, IHS=International Headache Society