

SUSPEND Trial: Spontaneous Urinary Stone Passage Enabled by Drugs

- Two different systematic reviews suggested that medical expulsion therapy (MET) with the alpha-blocker, tamsulosin (Flomax), or calcium channel blocker, nifedipine (Procardia), can increase the likelihood of spontaneous renal stone passage, but included trials of low to moderate quality.
- The SUSPEND Trial was a large, prospective, randomized multicenter where 1,136 patients were randomized to either receive tamsulosin 0.4 mg or nifedipine 30 mg, or placebo for up to 4 weeks and found no differences even among stone size, stone location or gender of the patient.
- Based on this well-designed study, the routine use of tamsulosin or nifedipine for MET in patients with renal stones is not supported and may result in increased unnecessary side effects.

Reference:	Pickard R et al. Medical expulsive therapy in adults with ureteric colic: a multicenter, randomized, placebo-controlled trial. Lancet 2015; http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)60933-3/abstract
Level of Evidence	1b per CEBM
Study Design	Prospective, Multicenter, Randomized, Placebo-Controlled Trial
Sample Size	N = 1,136
Population	Adults 18-65 yrs of age with renal stone < 10 mm in the ureter
Inclusion Criteria	Adults aged 18–65 years with one stone of 10 mm or less (at the largest dimension) in either ureter identified on CT KUB were included.
Exclusion Criteria	Need for immediate intervention decided by clinical assessment Sepsis GFR 30 mL/min Already taking or unable to take an α blocker or calcium channel stabilizer
Interventions	<ul style="list-style-type: none"> All patients enrolled received treatment up to 4 months N = 378 tamsulosin 0.4 mg daily N = 379 nifedipine 30 mg daily N= 379 placebo
Follow-Up	4 & 12 weeks
Primary Endpoint (Purpose):	Spontaneous stone passage in 4 weeks, defined as the absence of need for additional interventions to assist stone passage at 4 weeks after randomization.
Secondary Endpoint(s):	Pain assessed by participant-reported number of days of analgesic use and visual analogue scale at 4 weeks, time to stone passage assessed by the date of imaging showing no stone at up to 4 weeks, health status assessed by the Short Form (SF)-36 questionnaire, and safety assessed by participant report of discontinuation of medication due to adverse effects and by serious adverse events monitoring
Results:	<ul style="list-style-type: none"> No difference was noted between active treatment and placebo ($p=0.78$), or between tamsulosin and nifedipine ($p=0.77$). There were no differences based on stone size, stone location or gender. Serious adverse events were reported in three participants in the nifedipine group and one patient in the placebo group.
NNT/NNH:	
Conclusions:	Medical expulsion therapy with tamsulosin or nifedipine is not effective at reducing the spontaneous passage of renal stones.
Location(s):	Multiple centers in the United Kingdom
Funding:	UK National Institute for Health Research Health Technology Assessment Programme.
Trial Registration	European Clinical Trials Database, EudraCT number 2010-019469-26 International Standard Randomised Controlled Trial, number 69423238