

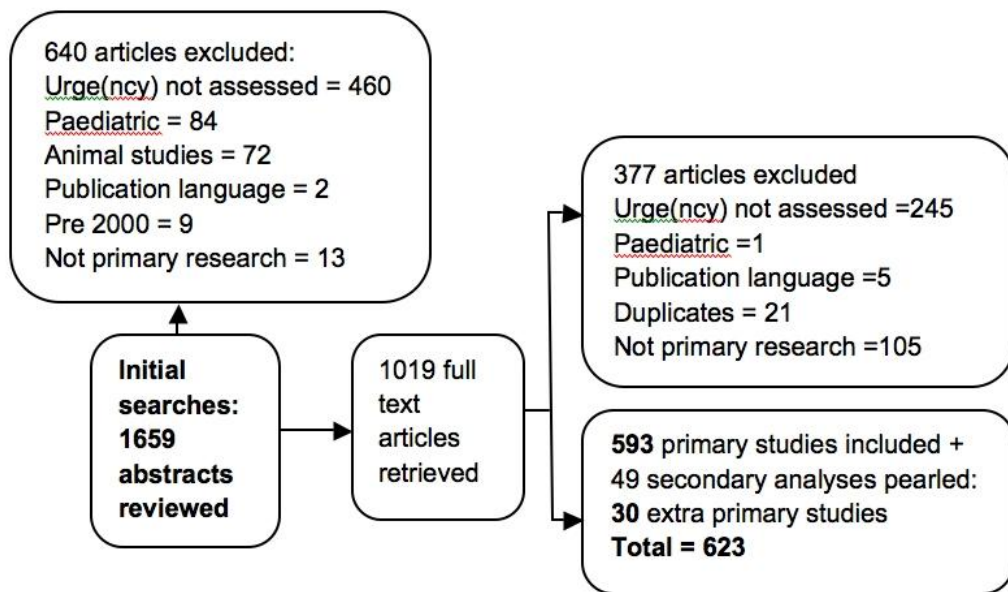
## SENSATION OF URGENCY; WHICH INSTRUMENTS ARE AVAILABLE AND WHICH DIMENSIONS OF SENSATION DO THEY MEASURE? A SYSTEMATIC REVIEW.

**Hypothesis / aims of study:** Adverse sensory experiences such as pain and dyspnoea are multidimensional and include dimensions of intensity, unpleasantness and sensory quality (1). An understanding of these dimensions has assisted diagnosis and treatment. It has been hypothesized that urinary urgency is a multi-dimensional sensation, yet key questions regarding the nature of this adverse sensation remain unsolved. Recent narrative reviews critique a selection of instruments used to measure urgency and highlight the difficulty of assessing this poorly understood sensation (2, 3). This systematic review aimed to (a) identify instruments which have been used to measure either urge or urgency in adults and (b) synthesize the dimensions of sensation measured using these instruments.

**Study design, materials and methods:** In September 2010, a search of Medline, Embase, AMED, CINAHL, Ageline, Web of Science, InformIT Health and Scopus databases was undertaken to identify studies including measures of urinary urge or urgency. Articles were included if they were primary studies which described the method used to measure urge/urgency in adults, published in English, in peer reviewed publications since January 1 2000. Articles were excluded if urgency was measured only in conjunction with other symptoms (e.g. frequency or incontinence) or if there was no English version of the instrument. Secondary analyses and systematic reviews were used to ‘pearl’ references for additional primary studies. Data were extracted for the method used to measure urge/urgency, the context under which the assessment was conducted (recalled or induced sensation) and dimensions of the sensation (e.g. intensity, location, unpleasantness). Instruments such as likert/visual analogue (VAS) scales which used different anchors or scales were considered to be separate instruments. Data were collated and analysed descriptively.

### Results

The preliminary results of the systematic search are presented in Figure 1.



**Figure 1: Preliminary results of systematic search.**

In total, 240 instruments were identified in the 623 articles reviewed. Urge/urgency was measured in a wide variety of populations ranging from the general public to 75 different diseases or symptom constellations. Where induced sensation was measured, induction methods included artificial or natural bladder filling, fluid loading or abdominal pressure. Instruments measured the sensation of urgency specifically (questionnaires, likert scales, VAS, body maps, patient reports during filling cystometry) or as a subset of a wider symptom instrument. For each instrument type, the range of sensory dimensions measured is presented in Table 1.

**Table 1: Dimensions of sensation urge/urgency measured by identified instruments.**  
Dimensions of Sensation

Instruments Induced sensation	Frequency	Presence	Severity	Bother/problem	Void deferability	Intensity	Change	Quality	Unpleasantness	Location	Dimension determinable	not
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Likert scale	2	2			6				1		
VAS		6			3						
Squeeze pressure					1						
Bladder diary (+Likert scale)	1	9		5	1		2				
Warning time				1							
Urgency free interval				1							
Sensory quality check list							1				
Body map									1		
<b>Recalled sensation</b>											
Wider symptom instrument	43	45	6	23	4	2	4	3	34		
Urgency questionnaire	3		2	2	5			1	1		
Likert scale	5		16	1	2	2	1		10		
VAS			1	3		2	3		4		
Body map									1		
<b>Total</b>	<b>52</b>	<b>47</b>	<b>42</b>	<b>29</b>	<b>18</b>	<b>17</b>	<b>8</b>	<b>5</b>	<b>5</b>	<b>2</b>	<b>49</b>

\*Numbers represent the number of instruments that assessed each dimension

#### Interpretation of results

The most commonly measured dimensions of urge/urgency were the presence and the frequency of the sensation. It was not possible to determine the dimension being assessed in 49 instruments. Similarly, it was not possible to determine whether 'severity' related to a rating of intensity (how strong), frequency (how often) or unpleasantness (how bad). Eleven percent of tools measured more than one sensory dimension. The most common combination was bother with either frequency or presence. The dimensions least assessed included sensory quality, unpleasantness and location. Unlike pain and dyspnoea, the multidimensional nature of urgency has not been prospectively tested but based on the current tools available to assess this sensation, researchers appear to accept that there are a variety of relevant sensory domains.

#### Concluding message

A variety of instruments have been used to measure urge/urgency in adults. These instruments have assessed a range of dimensions of the sensation but no single instrument has assessed the multidimensional nature of urgency. The development of a multidimensional instrument may assist in diagnosis and inform treatment.

#### References

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