These notes are for use together with the Colley Model.

3. Frequency and volumes voided in 24 hours

Create a baseline of the patients' bladder function. First it is useful to consider the parameters of normal bladder function, but these can vary with an individual's perception.

NORMAL BLADDER FUNCTION

It is important to remember that it is difficult to define a 'normal' or healthy bladder function (Lukacz et al, 2011) as normal parameters depend on age and gender, as well as many other internal and external factors such as fluid intake and type.

In general, the following guidelines may be considered as 'normal'

Frequency - 5 to 8 voids in 24 hours
Maximum voided volume (the largest volume of urine voided in a single micturition) - 400ml to 500ml
Nocturia - waking once at night to void may be considered not unusual. After the age of 60 years, nocturia may increase x 1 with each decade, so a person in their 80's may wake 3 times at night to pass urine. (See also yellow coloured box next to blue box 5 on the model, regarding nocturnal polyuria).

Fluid intake varies greatly between individuals. A healthy individual weighing 10 stones (64 kilos) should have a daily fluid intake of around 3½ pints or 2 litres (Abrams & Klevmar, 1996).

Click here to see a fluid matrix.

BLADDER DIARY

If the patient is too frail to complete a bladder diary, consider the use of other charts such as a micturition chart or frequency volume chart

Ask the patient to keep a bladder diary for a minimum of 3 consecutive days, when possible to include work and leisure days. Consider patient safety in frail individuals and convenience. If safe, ask the patient to record the times of micturition and the volumes voided for each 24 hour period. In addition, ask the patient to record fluid intake and type. Any wet episodes may also be recorded. If the patient passes urine but is unable to measure, (for example, if having a bowel movement), ask them to indicate this on the chart.

RESULTS

From the bladder diary, the following information can be collated:
Daytime frequency (number of voids during waking hours)
Nocturia (number of times the individual wakes to void)
24 hour frequency (number of voids in 24 hours)
Maximum volume voided
Total voided in 24 hours
Volume of fluid intake and type of fluid
Number of incontinent episodes

 Urinary frequency and/or urgency can occur in women as a symptom of ovarian cancer. Refer to https://www.nhs.uk/conditions/ovarian-cancer/symptoms/ and if in any doubt, refer the patient to their GP for further examination and tests.

The following definitions are (taken from the International Continence Society Glossary)
View the Glossary here

Increased daytime frequency – the complaint that voiding occurs more frequently during waking hours than previously deemed normal by the individual (or caregivers). (D'Ancona CD et al, 2019)

Diurnal polyuria – the complaint that daytime urine excretion volume is noticeably larger than the previous experience. (D'Ancona CD et al, 2019)

Nocturnal polyuria - excessive production of urine during the individual's main sleep period. Should be quantified using a bladder diary. (D'Ancona CD et al, 2019)

References and further reading:

Abrams P and Klevmar B (1996) Frequency volume charts: an indispensable part of lower urinary tract assessment. *Scandinavian Journal of Neurology* **179**. 47-53

D'Ancona CD, Haylen BT, Oelke M, Herschorn S, Abranches-Monteiro L, Arnold EP, Goldman HB, Hamid R, Homma Y, Marcelissen T, Rademakers K, Schizas A, Singla A, Soto I, Tse V, de Wachter S. An International Continence Society (ICS) Report on the Terminology for Adult Male Lower Urinary Tract and Pelvic Floor Symptoms and Dysfunction. Neurourol Urodyn. 2019 DOI: 10.1002/nau.2389

Colley, W. (2015). Use of frequency volume charts and voiding diaries. *Nursing Times, 111*(5), 12-15.
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Lukacz ES et al (2011) A healthy bladder: a consensus statement. International Journal of Clinical Practice; 65: 10, 1026-1036.