

# Brief guide to link analysis

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## What is link analysis?

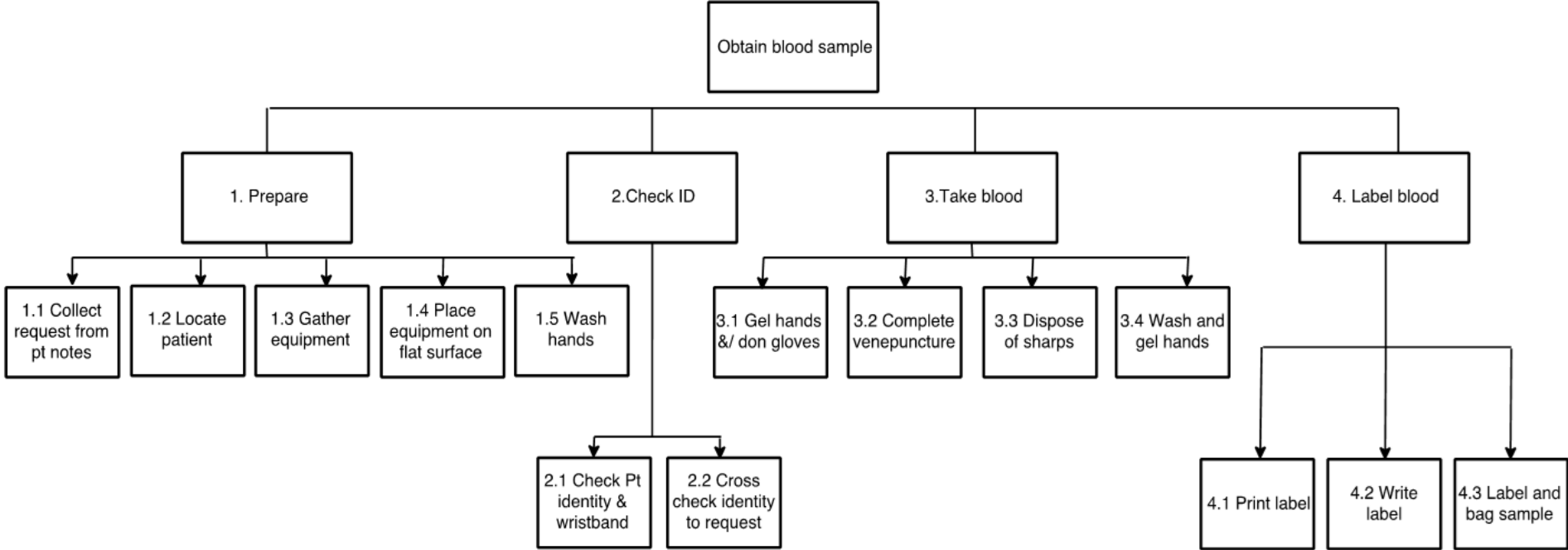
Link analysis visualises the frequency of interactions in a specific location or environment. Consider your kitchen. When cooking a meal, you will move between the cooker, fridge, sink and a worksurface multiple times. For each meal your movements may differ slightly, but generally there will be a stronger link between certain areas or items used to complete common tasks.

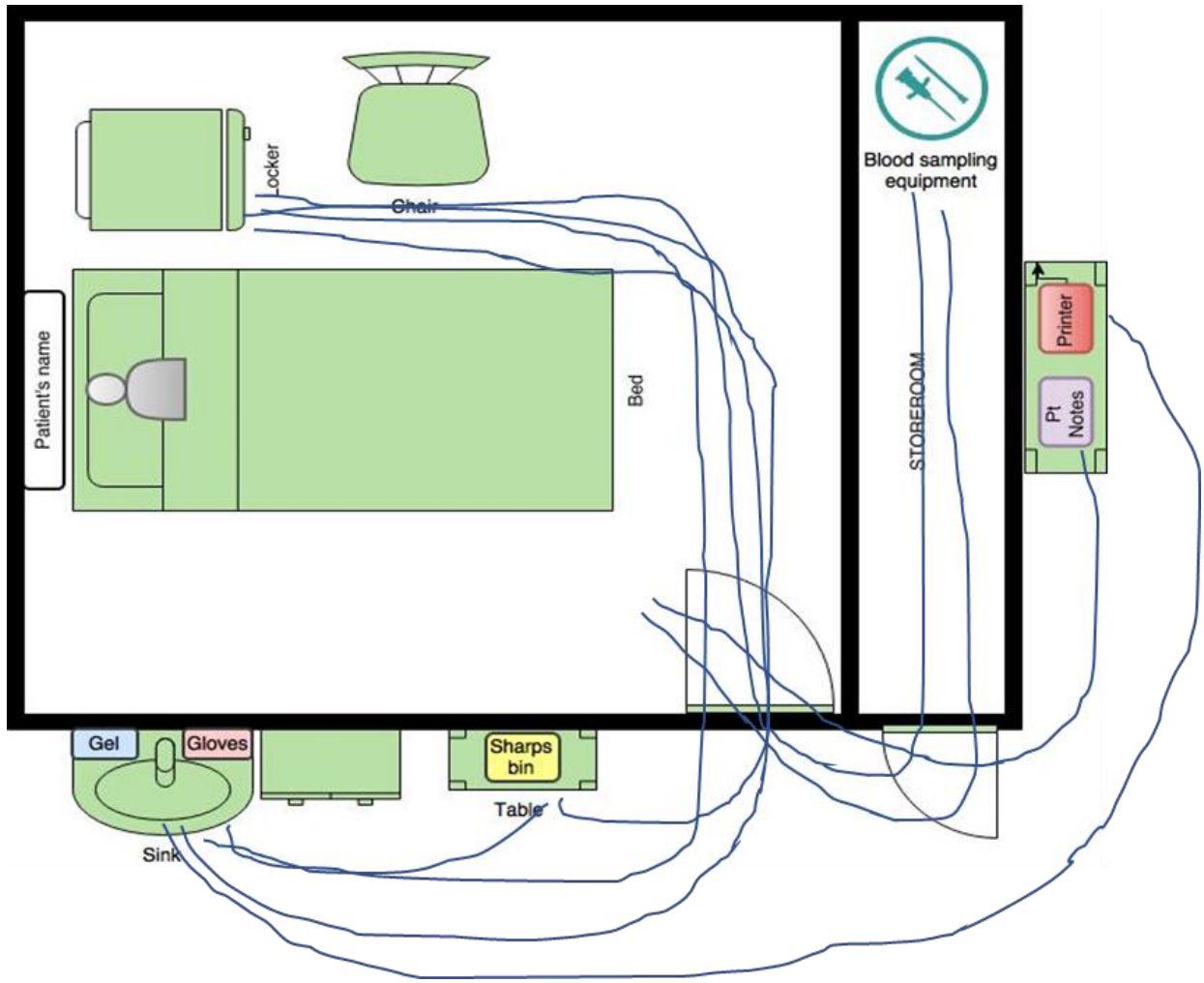
Link analysis can be used to highlight the frequently used paths taken in an environment and those that are critical for safety. This can inform the design of a healthcare environment (or your new kitchen) by co-locating those items or areas used to complete the most frequent tasks.

Purpose	How	Tips
<p>Can be used to:</p> <ul style="list-style-type: none"> <li>understand healthcare environments, once the common or essential tasks have been described.</li> </ul>	<ol style="list-style-type: none"> <li>1. Observe, review documents and hear how work is done. This can be completed using a walkthrough or observations.</li> <li>2. List or draw the key tasks involved in the work or scenario being considered (see below).</li> <li>3. Find an existing map or illustration of the environment or draw the environment.</li> <li>4. Set the time over which work will be observed in the environment to create the link map.</li> <li>5. Every time an interaction is observed or identified, draw a line between the areas or equipment used.</li> <li>6. Once the map has been completed, the density of the lines linking areas or equipment indicates the frequency or significance of certain interactions.</li> </ol>	<ul style="list-style-type: none"> <li>The time it takes to complete a task may be important and this can be added to the task description.</li> <li>Who completes the task may be relevant and different colours can be used to indicate tasks undertaken by different job roles.</li> <li>Stanton NA, Salmon PM, Rafferty LA, Walker GH (2013) Human factors methods: a practical guide for engineering and design, second edition. Ashgate Publishing Ltd. ISBN 978-1409457541</li> </ul>

# Example: Taking a blood sample

Step 2: List or draw the key tasks involved in the work or scenario being considered





Highlights from link analysis:

- frequency of leaving and entering the patient room
- influence of position of key pieces of equipment