

## Explaining Activity-Centred Analysis

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### Analyzing Work with Activity-Centred Analysis

Use the **Analysis Tables** to follow along with these steps.

1. Identify which task of the job you wish to analyze.  
*For example:* preparing materials for shipping
2. Break down the task into the operations that must be performed to complete the task.  
*For example:* Task - prepare materials for shipping  
Operation - filling the pan with widgets
3. Determine the sub-operations that must be performed to allow the operation to be completed.  
*For example:* i) reaching for a widget  
ii) placing it in the pan
4. Break the sub-operations into **movements and postures** associated with it. The movements in each body area must include only one movement/posture for each plane, per body area, per operation. The ergonomics training in Module 7 described various non-neutral postures and movements in the trunk and upper limb that can create risk of injury if they are prolonged, frequent, and/or intense.  
*For example:* “Reaching to grasp the widget from the conveyer” might require trunk flexion, shoulder flexion, abduction, and elbow extension.
5. Estimate the physical effort and identify the awkward or problematic movements or postures within the activities, operations, and tasks. Then, knowing the frequency of the various tasks and operations being performed, you can estimate total exposure of the employee to these postures.
6. Do not analyze every task and its associated operations and sub-operations. Instead, focus on tasks that are deemed to be problematic during Ergo-Team discussions and tasks identified as difficult or uncomfortable by employees and supervisors from this work area. The preliminary interview with employee volunteers can help to identify target tasks.

7. Be aware that in more complex jobs there will be many different tasks that are not necessarily performed in the same sequence during the workday; the tasks will vary depending on the situation. In these situations, focus on tasks and associated operations that are completed more frequently, or have the highest intensities.
8. Operations and sub-operations within tasks will have some variability as a result of change in client, product, and/or production demands. Additional analysis sheets are needed to account for this variability.  
*For example:* In the operation “attaining the widget,” the sub-operation of “reaching to grasp the widget from the conveyer” might change depending on the location and/or size of each widget; in *some* cases there might be flexion of the shoulder, in others there might be flexion and abduction, and in other cases the shoulder might not need to move but the elbow and forearm might displace more.
9. The analysis tables for each task/operation and knowledge of how frequently each task and operation is performed can help provide links between issues identified and activities performed. Consider how these efforts, postures, and movements relate to reports of fatigue and discomfort outlined in the body map or during interviews.  
*For example:* If shoulder flexion is part of the activities in several operations and tasks, the frequency of this posture might, in part, explain reports of problems in the upper limb.
10. Consider if these postures and movements relate to other problems outlined by the workers.  
*For example:* If employee reported feeling stressed to complete the job in a given amount of time, is the *distance* of various reaching or carrying operations contributing to the stress?
11. Make note of any queries that come up during the analysis with regards to variation in movements, postures, and tasks throughout the work.  
*For example:* Why do you do your job in that way?  
Do you have to hold it that way every time?  
Are you able to move closer to the product?  
Do you have to hold your neck in that position all the time?  
Sometimes you cross your left hand over the right, but not always.... Why is that?