Injuries often demand changes to the exercise you can complete. But while we focus on the 'micro' perspective of individual exercises, we can't lose sight of the 'macro' view of your long-term programming.

Good programming has a goal, intent. This intent is a common thread woven through days, weeks and months, but it's also present within each individual session. This training intent is the response that the programmer is looking to elicit when designing the stimulus that is their programming.

And by over-modifying your training, you're diluting the stimulus and therefore compromising your results. So our challenge is simple. "What is the smallest amount of modification we can make to maximise returns while still avoiding aggravation and promoting rehabilitation of the injury?"

Hierarchy of Exercise Modification:

To retain the training stimulus we need to modify exercises by the smallest amount possible while avoiding injury aggravation and ensuring the rate of recovery is maximised.

Minor modifications are the closest to the original exercise, but also the most likely to cause aggravation. Major modifications are further from the original exercise, while being the least likely to cause aggravation.

To determine which modification is required, we've created a Hierarchy of Modification. The exercise chosen should be the closest step to the top of this hierarchy that causes no pain or aggravation. Therefore, when selecting a modification, begin at the top of the list, and work your way down until you reach an exercise you can safely perform pain free.

The hierarchy of modification is:

1. Reduce load.
2. Reduce volume.
3. Reduce speed or power.
4. Reduce range of motion.
5. Change contraction type:
    1. Eccentric only.
    2. Concentric only.
    3. Isometric (static contractions).
6. Change movement but retain the stimulus and muscle activation patterns
7. Contralateral (opposite limb) single arm/leg.

Below, we'll cover each step in this hierarchy, using the example of how to modify a strict press for a neck injury. Understanding the process of modification can be a powerful way to maintain your self-efficacy (your perception of your ability to overcome the injury). A full resource outlining the exact modifications for each stage of this hierarchy can be found in part three.

Reduce Load:

Reducing the load of a movement can be achieved by lifting a lighter weight, or by using assistance on bodyweight movements. This modification allows us to retain all the benefits of that exercise and gives us a clear path to improvement – gradually increasing the weight back to pre-injury loads.

Example: Modifying load in the strict press for a neck injury:

- Reduce weight.

Reduce Volume:

Reducing the total volume of the reps being completed can be achieved by reducing the number of reps in each set, or by reducing the number of sets.

Example: Modifying volume in the strict press for a neck injury:

- Reduce number per set.
- Reduce number of sets/rounds.

Reduce Speed or Power:

While speed and power are important to maximise the effects of exercise, they can reduce the individual's ability to make small adjustments to movement patterns which are needed to avoid aggravation. Slowing the movement allows these adjustments. This adjustment can be made by reducing the cycle rate (while keeping the speed of each individual rep the same), or by reducing the speed of the rep itself.

Example: Modifying speed or power in the strict press for a neck injury:

- Reduce cycle rate.
- Reduce speed of movement.

Reduce Range of Motion:

Certain injuries are aggravated only in certain parts of a movement. By avoiding these painful ranges, we can train an exercise as normal, and experience a large percentage of the benefits without aggravation.

Example: Modifying range of motion in the strict press for a neck injury:

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