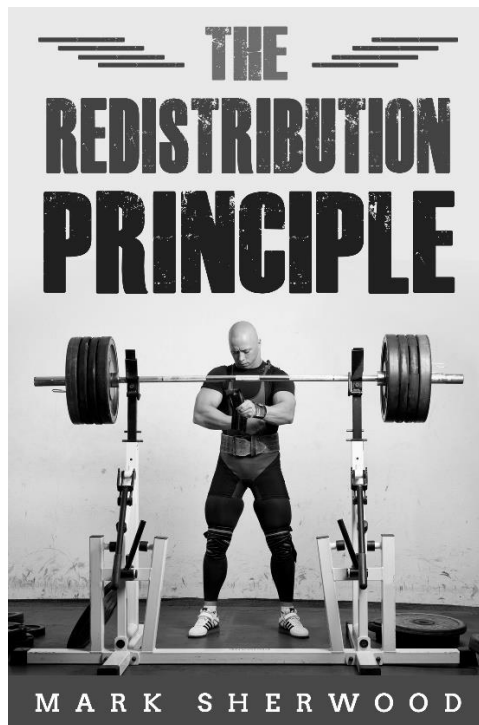


THE REDISTRIBUTION PRINCIPLE



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The Redistribution Principle



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The Redistribution Principle

By Mark Sherwood

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Introduction

The Redistribution Principle can be used for establishing the proper balance between training volume and training intensity. Some lifters are going to find that it is difficult to constantly engage in high intensity training without suffering the consequences of overtraining. Lifters may deal with this problem in a variety of ways. For example, they may do less sets or less workouts per week. They may also try alternating easier workouts with harder heavier workouts.

One method that is often overlooked when attempting to avoid overtraining is to use the Redistribution Principle. When using this method, the same amount of weight and total reps are maintained from workout to workout, but the reps are divided into more sets that each consist of a smaller number of reps. For example, you may be doing three sets of ten reps per exercise for a total of thirty reps per exercise. if you start to burn out on three sets of ten reps per exercise because the intensity is too high, you can redistribute the thirty reps across more sets using any of the following options:

10 sets of 3 reps = 30 reps

6 sets of 5 reps = 30 reps

5 sets of 6 reps = 30 reps

The Goal

The goal of the Redistribution Principle is simple:

To provide a method that enables you to manipulate your training intensity as needed in order to recover within the context of the amount of volume, load, and frequency used. The rest of this book will give a variety of examples that explain how the Redistribution Principle can be used in order to accomplish this goal.

Chapter 1

Do What Is Working, Change When Needed



The Redistribution Principle is not a magic training method, it is an option that can be used when needed. If you are not currently using the Redistribution Principle and your current training is delivering favorable results, keep doing what you have been doing. The Redistribution Principle is an option you can try if your current training isn't working. Let's examine a situation in which a lifter may need a change and it would be helpful to switch to the Redistribution Principle for a while.

Chad's Beginning Workouts

Chad normally did three sets for each exercise in his workouts. His workouts consisted of basic exercises such as squats, deadlifts, bench presses, overhead presses, and seated pulley rows, curls for biceps, triceps extensions, and curl ups for abs. Chad normally chose four to five of these exercises per workout to cover his whole body while doing three workouts per week. He varied the amount of reps he did for his exercises as he did ten reps in some workouts, eight reps in other workouts, and five reps when he wanted to go heavy. One of the things that Chad did on a consistent basis was to push his sets to failure, or within one rep of failure.

Problem: Fatigue And Unresponsive Muscles

Chad's initial training strategy seemed like a good idea because it worked. However, after four months of pushing his sets within one rep of failure or beyond, he noticed that his muscles were feeling tired and were no longer responding to his workouts. At this point, Chad has several options he can try in order to remedy the problem:

Train Less Often

The first option Chad can try is to reduce his training volume. After all, he often saw Gary and Bill in the gym, and when he talked with them, he found that Bill only trained each muscle group twice per week, and Gary only trained each muscle group once per week. Even though both lifters were training less often than Chad, they were both making excellent progress. Knowing this, Chad decided to back off on his training volume to see if it would help him to recover. He tried training each muscle group once per week, but he started losing strength. He then tried training each muscle group twice per week, but it still didn't seem to work as good as training each muscle group three times per week. At the same time, high intensity three times per week felt like it was too much.

Do Less Sets

The next thing that Chad tried was to do less sets. He had heard that some lifters feel they get the best results by doing just one hard work set per exercise and muscle group. Chad tried it, but the idea bombed as his muscles quickly lost size and strength. He then tried two sets but it still didn't seem to work quite as well as three sets. On the other hand, doing three hard sets per muscle group in every workout seemed like too much.

At this point, Chad was learning that lifters vary. Some don't need to work out very often in order to make progress, but Chad needed three workouts per week. Likewise, some lifters only needed to do one set per exercise, but it wasn't enough for Chad as he needed three sets. In spite of this, he knew that his current workout wasn't working so he looked for another alternative.

Do Some Lighter Workouts

Chad's next strategy was to do at least one workout per week in which he backed off on the amount of weight that he used so that he didn't have to push for max reps to failure in every workout. At the same time, he still continued to do three sets per exercise and work each muscle group three times per week. This seemed to be a good idea and it helped him to improve.

The Redistribution Principle

Chad kept using his strategy of incorporating lighter workouts into his training schedule in order to avoid overtraining, but Sam presented him with another option. Sam was a successful powerlifter who ran into the same problems as Chad. The use of high intensity training in every workout was too much when working each muscle group for three sets, three times per week. Doing less workouts per week didn't help, and neither did doing less sets. However, Sam dealt with this problem a different way; instead of incorporating some light workouts into his training schedule, he used the Redistribution Principle.

Sam used the Redistribution Principle by using the same weight and the same amount of total reps for a few workouts, but he would redistribute the total amount of reps into more sets and less reps per set. In other words, he would squat with 315 pounds for 30 total reps in each workout, but in the first workout, he would accumulate thirty total reps by doing six sets of five reps. In his second workout, he would do five sets of six reps. In his third workout, he would do three sets and push himself to reach ten reps for each set. Of course, his third workout consisted of high intensity sets compared to the first two workouts. By doing this, Sam's workouts included sufficient volume, frequency, and weight without overdoing it on intensity. Sam convinced Chad to try this idea and he found that it was another excellent option.

The option worked for Chad, and It is also an option that may work for you if you are burned out from the constant use of high intensity sets.

Lesson to be Learned

The Redistribution Principle isn't the only method that you can use to avoid overtraining. If you are feeling burned out from too much training intensity and are stuck at the same strength level, you can try doing less workouts per week, or less sets per workout. You can also try using less weight for some of your workouts. If these options work, keep using them. If the options do not work, try dividing the same amount of total reps into smaller sets with a lower intensity by using the Redistribution Principle for some of your workouts.

Chapter 2

Determine Your Capacity For Quality Sets



When using the Redistribution Principle, the starting place is to determine the total number of reps that you are going to perform for a muscle group. The reps can then be distributed into sets. When deciding the total number of reps you are going to perform for an exercise or muscle group, you must consider your personal capacity for how many reps you can perform without overtraining. This can generally be accomplished by testing yourself to determine the number of quality full sets you can perform for an exercise or a specified muscle group. Of course, you can only determine this if you know two things:

1. The meaning of a full set
2. The meaning of a quality set

What Is a Full Set?

At a minimum, a full set requires that a lifter perform as many even paced reps as possible before stopping a set. Most lifters can continue beyond their ability to maintain a steady even rep pace by performing an additional one to three slower reps when pushing for max reps to failure.

In order to clarify the meaning of a full set, let us imagine a lifter is able to bench press 250 pounds for twelve reps when pushing for max reps to failure, however, he cannot maintain a steady even rep pace for all twelve reps, he can only maintain a steady rep pace for the first ten reps. The minimum amount of reps that would represent a full set for this lifter is ten reps. If he did eleven or twelve reps, he would still be doing a full set. A full set would range between ten to twelve reps for this lifter.

If we continue by using the same lifter as an example, he would be best off if he knows his preferred stopping point in a full set. Is it ten reps, eleven reps, or twelve reps? This will help him to determine the total number of reps he will be doing when repeating sets. The next question is, how many sets should he do? The answer will help to determine the total number of reps. For example, if he does three sets of ten reps, the total number of reps would be thirty. He would then redistribute thirty reps into four or more sets when using the Redistribution Principle. If he decides to do two sets of ten reps, the total number of reps would be twenty, whereas it would be forty if he decided to do four sets of ten reps.

What Are Quality Sets?

When you are considering how many full sets to perform, ideally, you should base it on your capacity to repeat quality sets. Quality sets are sets that you can repeat while a muscle group remains at full strength. If you repeat sets to the point where you can no longer perform as many reps as you normally can with the amount of weight you are using, you are no longer at full strength. When you are no longer at full strength, you are no longer doing quality sets. For example, if you can normally perform ten reps for three sets when squatting 275 pounds, but you can only perform nine reps when you reach your fourth set, you are no longer at full strength for your fourth set. The same would hold true if you manage to do ten reps for your fourth set, but the tenth rep feels much harder than the tenth rep felt when performing your first three sets. In both of these cases, you have the capacity to perform three quality sets and would be better off doing three sets instead of four.

1 to 3 Quality Sets When Pushing To Failure

When pushing for max reps to failure, the majority of lifters will have the capacity to remain at full strength for one to three sets per muscle group.

2 to 4 Quality Sets When Pushing Just Short of Failure

The majority of lifters who stop their set one to three reps before reaching failure will not be as fatigued at the end of a set as those who push all the way to failure. This being the case, lifters who stop one to three reps short of failure will generally have the capacity to remain at full strength for two to four sets.

It is important to understand that no one can give you an exact number of sets that you should do because the number you should do is based upon your personal capacity for quality sets. This will vary from person to person, but most of the examples that I use in this book will consist of those who have the capacity to perform two to three full sets at full strength. The reason for this is because the majority of lifters possess a capacity to repeat two to three sets per muscle group at full strength.

Chapter 3

Partial Sets And A Redistribution Scheme



Once you know your capacity for how many quality sets you can perform, you can add the total number of reps performed across each set. For example, if you have the capacity to do three sets of twelve reps, you will be doing a total of thirty-six reps. You would use this number when applying the Redistribution Principle.

Partial Sets

When using the Redistribution Principle, you divide the total number of reps into partial sets instead of full sets. Any time you terminate your set before you complete a full set, you are doing a partial set. This means if it takes twelve reps to reach a full set with a given weight, a partial set would consist of eleven or less reps per set.

If we return to the example of:

3 sets x 12 reps = 36 reps (each set is a full set)

The example above can be redistributed into four options when implementing the Redistribution Principle for 36 reps:

4 sets x 9 reps = 36 reps (example of partial sets)

6 sets x 6 reps = 36 reps (example of partial sets)

9 sets x 4 reps = 36 reps (example of partial sets)

12 sets x 3 reps = 36 reps (example of partial sets)

You don't need to use all four of the options listed above. If you are training three times per week, you only need to use two of the four options for two of the workouts. You can then use full sets for the third workout. An example of how you would do this over the course of three workouts within a week is listed below:

Workout 1: Partial Sets

6 sets x 6 reps = 36 reps

Workout 2: Partial Sets

4 sets x 9 reps = 36 reps

Workout 3: Full Sets

3 sets x 12 reps = 36 reps

The whole purpose of the Redistribution Principle is to reduce the intensity of each set by doing less reps per set in order to spread the total amount of reps across more sets. Using this method helps you to avoid burnout which can occur when sets are constantly performed with a high level of intensity. You can see this even more clearly if you measure intensity in terms of intensity ratios.

Intensity Ratios

Intensity ratios consist of two numbers:

The first number indicates how many reps a lifter actually did when performing a set.

The second number indicates how many reps the lifter could have done when performing a full set.

The two numbers then form a comparison that indicates how many reps a lifter performed compared to how many reps he could have performed if he pushed to the point of reaching a full set. An example will help to clarify this concept.

We'll imagine that Todd can bench press 175 pounds for ten reps when performing a full set. When performing a full set, his intensity ratio would be 10/10 because he is doing ten reps, which is as many as he can perform for a full set. This would be a high intensity ratio. However, if Todd uses the Redistribution Principle and does six reps per set with 175 pounds, his intensity ratio would be 6/10 because he is only doing six reps per set, even though he could do ten. If he performed five reps per set, his intensity ratio would be 5/10. If he only did three reps per set, his intensity ratio would be 3/10.

The lower the first number is in comparison to the second number, the lower the intensity ratio. In contrast, if the first number is as high, or almost as high as the second number, the intensity ratio is high. Low intensity ratios indicate low intensity sets, moderate intensity ratios indicate moderate intensity sets, and high intensity ratios indicate high intensity sets. The Redistribution Principle is used to avoid overtraining by taking a given number of total reps and distributing them into sets consisting of low or moderate intensity ratios.

Chapter 4

More Redistribution Schemes



Powerlifters may go as high as fifteen or twenty reps per set when performing full sets, but it is more common for them to use three to ten reps for most of their sets, with five reps being the most common. The following table provides examples of how many total reps are performed when performing three full sets of ten, eight, or five reps per set. The total number of reps for the full sets are then redistributed into partial sets with less reps per set. Workouts consisting of partial sets would then be used as needed to avoid burnout.

Examples of Redistributing 3 Full Sets Into Partial Sets		
Three Full Sets 3 sets x 10 reps = 30 reps	Three Full Sets 3 sets x 8 reps = 24 reps	Three Full Sets 3 sets x 5 reps = 15 reps
Partial Sets 5 sets x 6 reps = 30 reps 6 sets x 5 reps = 30 reps 10 sets x 3 reps = 30 reps	Partial Sets 4 sets x 6 reps = 24 reps 6 sets x 4 reps = 24 reps 8 sets x 3 reps = 24 reps	Partial Sets 4 sets x 4 reps = 16 reps* 5 sets x 3 reps = 15 reps

*When dividing up a total number of reps, you will find that some numbers do not divide up into very many options. For instance, you can see in the example above that three sets of five reps equals fifteen reps. Fifteen reps can only be broken evenly into three sets of five reps, or five sets of three reps, there are no other options that equal exactly fifteen reps you do fifteen single reps. However, four sets of four reps equals sixteen reps which is very close to fifteen reps, so it is a reasonable option. If you use a redistribution scheme that is one to two reps within the desired number of total number of reps you are trying to accumulate, it will generally work. You will see more examples of options that are close, but not exact in terms of arriving at the number of total reps that you are attempting to accumulate. This is shown in the table below:

Examples of Redistributing 2 Full Sets Into More Sets		
2 Full Sets 2 sets x 10 reps = 20 reps	2 Full Sets 2 sets x 8 reps = 16 reps	2 Full Sets 2 sets x 5 reps = 10 reps
Partial Sets 3 sets x 7 reps = 21 reps 4 sets of 5 reps = 20 reps 5 sets of 4 reps = 20 reps	Partial Sets 3 sets x 6 reps = 18 reps 4 sets x 4 reps = 16 reps 5 sets x 3 reps = 15 reps	Partial Sets 3 sets x 4 reps = 12 reps 4 sets x 3 reps = 12 reps 5 sets x 2 reps = 10 reps

Assuming you choose to use the Redistribution Principle, you will need to experiment to find out a pattern of workouts that works. For example, you may find that you can do full sets two out of every three workouts and still recover. If not, you can cut back on how often you do full sets by doing them every other workout, or once every three workouts. The only way to determine this is through trial and error. If you find a combination of workouts that works, stick with it.

Chapter 5

Increase Volume Without Overtraining



It is possible that you have no problem recovering from a specific number of full sets in every workout. For example, Frank found that he could consistently recover from his workouts when doing two full sets for each muscle group. However, he wanted to receive the benefits of hypertrophy and conditioning that occur when using a higher training volume. When he increased his training volume to three or four full sets per muscle group, he found he couldn't recover from his workouts as well. One solution for Frank is to use the Redistribution Principle.

When using the Redistribution Principle, Frank will be able to increase his training volume without overtraining. Instead of just doing two full sets, he can take the total reps from three full sets and redistribute them into partial sets that are less taxing. For example, Frank generally starts his training cycle by working up to two full sets consisting of ten reps and he works each muscle group twice per week. Of course, two sets of ten reps is equal to a total of twenty reps. Frank may find that he can increase the volume of his first workout from twenty reps to thirty reps without overtraining by doing six sets of five reps. When doing his second workout, he increases the intensity to ten reps per set, but he cuts back to two sets for a total of twenty reps.

This same principle can be applied as Frank increases the weight of his lifts while doing sets of eight reps and five reps. Instead of doing two sets of eight reps for a total of sixteen reps, Frank can increase the total number of reps to twenty-four reps for one of his workouts by using the Redistribution Principle. This gives him the option of accumulating twenty-four reps by doing four sets of six reps or six sets of four

reps. When doing two sets of five reps for a total of ten reps, Frank can increase the total number of reps for one of his workouts to fifteen total reps without overtraining. This can be done by doing five sets of three reps.

Some lifters may prefer to vary the reps from week to week instead of from workout to workout. For example, a lifter who can normally do two full sets of ten reps for a total of twenty reps can change the total number of reps to thirty the first week, twenty four the second week, and twenty the third week. The same weight would be used each week and the three week cycle would be performed as follows:

Week 1

6 sets x 5 reps = 30 reps

Week 2

4 sets x 6 reps = 24 reps

Week 3

2 sets x 10 reps = 20 reps

Important Note: The same weight would be used each week.

As you can see, during week one, only five reps per set are done. The sets are not intense so more total reps can be performed without overtraining. During weeks two and three, more reps are added per set. This causes the sets to become more intense and demands a decrease in the total number of sets and reps to enable recovery.

Chapter 6

More Weight – Harder Sets



In all of the previous examples of the Redistribution Principle in this book, it is either assumed or stated that the weight remains the same when redistributing full sets into partial sets. This will change in the next two chapters. The strategy that will be discussed is to vary the weight from workout to workout or from week to week while also using the Redistribution Principle. In order to explain this, we will go back to the last example used in the previous chapter. This example is listed below:

Week 1

6 sets x 5 reps = 30 reps

Week 2

4 sets x 6 reps = 24 reps

Week 3

2 sets x 10 reps = 20 reps

In the previous chapter, it was stated that the same amount of weight was used each week. It is possible that you try this and end up burned out by the start of the third week because of the higher volume of more total reps the first and second weeks. If this happens, you can adjust the weight to fit the amount of total reps that are performed each week. An example of how this would work for a lifter who is doing squats from week to week is shown below:

Week 1

6 sets x 5 reps = 30 reps using 250 pounds

Week 2

4 sets x 6 reps = 24 reps using 265 pounds

Week 3

2 sets x 10 reps = 20 reps using 275 pounds

Notice in the example above that the amount of weight is lightest the first week when the total number of reps is highest. The weight is then increased from week to week. Likewise, the number of reps per set is also increased, but the total amount of reps per workout decreases to avoid overtraining.

Week to Week or Workout to Workout

The examples in this chapter are based on weekly changes, but the same changes can be used from workout to workout within the same week when doing three workouts per week for each muscle group.

Chapter 7

More Weight -- Easier Sets



A final variation of the Redistribution Principle is to perform a three week cycle with the following characteristics:

The same number of total reps are used for each muscle group throughout the cycle.

The least amount of weight is used the first week.

Full sets are used the first week.

Weight is added each week, but the amount of reps per set is decreased.

As the weight increases, the sets actually get easier because of a lower intensity ratio. An example of this is shown below:

Starting With Full Sets of 10 Reps

Week 1

2 sets x 10 reps = 20 reps using 275 pounds (about 70% of single rep max)

Week 2

4 sets x 5 reps = 20 reps using 285 pounds (about 72.5% of single rep max)

Week 3

7 sets x 3 reps = 21 reps using 295 pounds (about 75% of single rep max)

In the three-week workout cycle listed above, you should notice that the amount of weight keeps increasing each week. However, the individual sets will feel **less** taxing as the cycle progresses because less reps per set are performed. This strategy makes it easier to recover when weight is increased from week to week.

This same concept can be used to form more three week cycles. The next three week cycle could start with full sets of eight reps, followed by another cycle that starts with full sets consisting of five reps, and a final three week cycle that starts with full sets consisting of three reps. If you combine the three week cycle listed above with the three week cycles listed below, you would be using a linear loading pattern as follows:

Starting With Full Sets of 8 Reps

Week 1

2 sets x 8 reps = 16 reps using 295 pounds

Week 2

4 sets x 4 reps = 16 reps using 305 pounds

Week 3

5 sets x 3 reps = 15 reps using 315 pounds

Starting With Full Sets of 5 Reps

Week 1

2 sets x 5 reps = 10 reps using 325 pounds

Week 2

4 sets x 3 reps = 12 reps using 335 pounds

Week 3

5 sets x 2 reps = 10 reps using 345 pounds

Starting With Full Sets of 3 Reps

Week 1

2 sets x 3 reps = 6 reps using 345 pounds

Week 2

3 sets x 2 reps = 6 reps using 355 pounds

Week 3

6 sets x 1 rep = 6 reps using 365 pounds

Add Volume If Needed

You may notice that the workouts listed above do not provide very much training volume. The total amount of reps during the first three week training cycle is twenty reps per exercise, but it drops to only six reps per exercise for each muscle group by the last three week training cycle. In order to compensate for the lack of volume, I suggest doing one to two lighter sets consisting of twelve to fifteen reps at any point in the training cycle where you feel the lack of training volume starts to hinder your progress. These sets should be done with assistance exercises such as; incline dumbbell presses for chest muscles, lat pulldowns for back muscles, goblet squats or belt squats for legs, and hyperextensions for lower back. The lighter sets should not be overly hard and should be done with an intensity ratio that ranges anywhere from 12/16 to 15/20. This means you would be doing twelve reps with a weight that you could perform for sixteen reps (12/16), or you would perform up to fifteen reps with a weight that you could perform for twenty reps (15/20).

Chapter 8

Trial And Error



Remember that the Redistribution Principle is to be used as needed. The Principle will add complexity to your training and complexity tends to be a two-edged sword. The good part about complexity is that the added variety to your training will tend to have a positive effect on your results. On the other hand, the potential problems with complexity is that the added training variables and constant change can make it harder to interpret the specific aspects of your training that are producing positive or negative results.

In order to use the Redistribution Principle effectively, you will need to be patient enough to go through a process of trial and error to differentiate between patterns and combinations of training that work as opposed to those that don't work. Those who do this will receive the benefits of superior training results. My hope is that the information in this book will bring you another step closer to your training goals. I wish you much success and the best of training.

About The Author

Mark Sherwood is a long-time fitness enthusiast who has pursued weight training and other fitness activities for over thirty years. His educational and professional background include a B.S. degree as an exercise specialist in physical education from the University of Wisconsin Madison, and positions as a fitness instructor and physical education teacher.

One of Mark's passions is to distinguish between strength training concepts that are consistently effective as opposed to those that are effective for a short time period. Through his education, research, and personal trial and error, he has endeavored to gain the necessary knowledge to share effective training strategies with those who desire to maximize their training results.

Mark resides with his family in Southern California. For more training resources from Mark, you can visit www.precisionpointtraining.com. In addition, you can view more books on strength training that he has authored on the next page.

Additional Resources

A Quick Guide To Strength
Beginning Strength Training
Bottom Up Loading
Cluster Set Training
Easy Progression With Mini Sets
Force And Frequency Training
Fusion 3: Book 1
Giant Pyramid Training
High Frequency Strength Training
High Volume 5's
Heavy Frequency Training
Individualized Workouts For Hardgainers
Intensity Ratios
Marker Rep Training
Never Miss A Lift
Overcoming Strength Training Plateaus
Quick Workouts For Quick Muscles
Rest-Pause Training
Strength Challenge 20/20
Strength Training Capacity
Strength Training Thresholds
Strength To The Max
Strength To The Max And Beyond
The 1 x 100 Challenge
The High Frequency Training Pyramid
The Peak Strength Principle

12-10-8-6: A Workout Plan For Building Size And Strength