

#### **4.0 Data Analysis**

As a wide range of studies are incorporated into any systematic review, it is imperative that a universal, self-explanatory method of data extraction and subsequent presentation is used to allow effective comparison between studies. Studies will vary in objectives, design, findings and reporting as each researcher/group will have a different approach, which may alter dramatically between institutions, countries and continents. To ensure that adequate data presentation is achieved the following data points were extracted from the research studies reviewed:

1. Author and date
2. Number of Subjects
3. Chromium Dosage
4. Duration of Supplementation
5. Type of Chromium Supplement Used
6. Exercise (if any)
7. Compliance Monitored
8. Measurement Technique
9. Findings (Changes in Body Composition, Physical Performance Parameters, Metabolism)

Clarification of points 5-9 provided below:

1. (5) Chromium supplementation can be achieved in a number of forms. Most commonly this is chromium picolinate, however forms available include chromium nicotinate, chromium chloride and chromium yeast.

2. (6) Exercise may be prescribed, in which case it is often well controlled and recorded. If exercise is not prescribed what measures have been taken to record physical activity with the supplemented subjects
3. (7) Compliance can be monitored in a number of ways, capsule counting, determining number of capsules remaining following completion of study or by straightforward interview or questionnaire.
4. (8) Referring to the method by which body composition and physical performance parameters are measured. Body composition can be measured in a number of ways with varying degrees of accuracy. Examples include limb circumference, skinfold thickness, underwater weighing, dual x-ray absorptiometry and magnetic resonance imaging.
5. (9) This refers to findings deemed statistically significant ( $p < 0.05$ ), therefore 95% of the results are real and not due to chance.

Further to these points the data tables containing the details of aspects and findings of studies analysed in this review will also demonstrate the respective Jadad 3-item score which the study received. This is to enable effective comparison of the findings of all the studies and to directly compare the quality assessment score on controlling of bias, an essential aspect in all clinical trials.

As a means of ensuring the aims and objectives of the systematic review are achieved, studies were divided into the following categories (see below) on the basis of their design and experimental protocol into the effects of chromium supplementation:

1. Effect on body composition in trained/training individuals.
2. Effect on physical performance parameters (i.e. strength/endurance) in training individuals.
3. Effect on body composition in uncontrolled, free-living individuals.