## Appendix H: Allergic Reactions to Insulin

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Description</th>
<th>Treatment</th>
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</table>
| Local | Occurs in 2-3% of clients  
Develops within the first 2 weeks of therapy  
Approximately 90% of people with local allergy have spontaneous resolution within 2 months while on the same therapy. An additional 5% will improve within 6-12 months  
May be associated with lipoatrophy if injection sites are not rotated |  
| Isolated wheal & flare | Develops within 30 minutes  
Resolves within an hour  
The late phase of a biphasic reaction is painful and erythematous. This peaks in 4-6 hours and lasts for 24 hours. |  
| Biphasic |  
| Arthus reactions | Are uncommon  
They are localized small-vessel injuries with neutrophilic infiltrates  
Develops over 4-6 hours and peaks in 12 hours |  
| Delayed (tuberculinlike) | A nodule or “deep hive” develops in 8-12 hours and peaks in 24 hours |  
| Systemic | Very rare, but are more common in people with histories of atopy and/or intermittent insulin therapy |  
| Urticaria to anaphylaxis | Anti-insulin IgG and IgE levels are significantly elevated  
Occurs immediately |  
| Treatment |  
| Anaphylaxis protocol  
Insulin desensitization program |  
| Insulin–antibody mediated Insulin Resistance | Extremely rare  
Insulin molecule induces immunologic complications  
Use of beef-containing insulins before the initiation resistance is usually always noted  
Presence of these antibodies may increase insulin dose or alter insulin absorption |  
| Treatment |  
| Use of steroid therapy  
Use of U-500 insulin |  

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