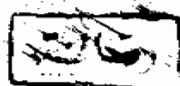


***Evaluation of Secondary Prophylactic  
Schemes for Rheumatic Fever Using  
Benzathine Penicillin G***



**Essay**

*Submitted in Partial Fulfillment of  
The Master Degree*

*In,  
Pediatrics*



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**1997**

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وقل رب زدني علما

صدق الله العظيم (طه ١١٤)



***To My Mother and Father  
To My Dear Husband  
&  
Precious Son  
Hany***

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## **Acknowledgment**

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**Soha**

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## **List of Abbreviations**

<b>AHA</b>	American Heart Association
<b>ARF</b>	Acute rheumatic fever
<b>ASO</b>	Anti-streptolysin O titer
<b>BPG</b>	Benzathine penicillin G
<b>CD4</b>	T-helper cells
<b>CD8</b>	T-suppressor cells
<b>CRP</b>	C-reactive protein
<b>ESR</b>	Erythrocytes sedimentation rate
<b>GABHS</b>	Group A beta hemolytic streptococci
<b>GAS</b>	Group A streptococci
<b>HLA</b>	Human leucocytic antigen
<b>KDa</b>	Kilo Dalton
<b>LAP</b>	Long acting penicillin
<b>MBC</b>	Minimum bactericidal concentration.
<b>MIC</b>	Minimum inhibitory concentration
<b>PBPG</b>	Procaine benzathine penicillin G
<b>PBP<sub>s</sub></b>	Penicillin binding proteins
<b>PSRA</b>	Post streptococcal reactive arthritis
<b>RF</b>	Rheumatic fever
<b>RHD</b>	Rheumatic heart disease

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## Introduction

Acute rheumatic fever is a multisystem febrile disease, affecting mainly the connective tissue, particularly the heart and joints. Its seriousness centers around the fact that it might lead to chronic cardiac damage with subsequent disability and high mortality over the years (*Karademir et al., 1994*). During the past decades, the course of rheumatic fever was found to be severe and aggressive in different areas in Egypt (*Kassem et al., 1995*).

The most striking feature of rheumatic fever is its tendency to recur, both the initial and secondary attacks of the disease are preceded by an upper respiratory infection with group A  $\beta$ -hemolytic streptococci, so protection of rheumatic subjects against group A  $\beta$ -hemolytic streptococcal infection is expected to prevent recurrences (*WHO, 1980*). However, despite the introduction of penicillin prophylaxis for rheumatic fever since the early 1950, the morbidity and mortality of the disease remained high in most developing countries (*Padmavati, 1979*).

A monthly injection of 1,200,000 units of long acting penicillin has been advised as the most accepted prophylactic regimen, however, recurrences have been repeatedly reported in groups of patients maintaining regular prophylaxis (*Berry, 1982*). Several reports recently appeared questioning the



persistence of effective penicillin levels beyond the second, third and fourth week after long acting penicillin injection (*Begue, 1988*).

# Aim of the Work

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## **Aim of the Work**

The objective of this essay is to review the literature for the best regimen of prophylaxis against rheumatic fever that ensures an adequate serum level of penicillin after long acting penicillin injection.

# **Review of Literature**

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# Chapter One

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