

## ABSTRAK

### PENGARUH LATIHAN *PLYOMETRICS* TERHADAP HASIL TOLAKAN *START* PADA OLAHRAGA RENANG (Studi Eksperimen di UKM AQUATIK UPI)

Aziz Rubiansyah

0901470

Tujuan dari penelitian ini adalah mengetahui pengaruh latihan *plyometrics* terhadap hasil tolakan *start* dalam olahraga renang terutama pada *block time phase*. Sampel diambil sebanyak delapan orang atlet putra dari UKM AQUATIK UPI dengan menggunakan teknik *Purposive Sampling*. Metode penelitian ini menggunakan penelitian kuantitatif dengan pendekatan *eksperimental one group pretest posttest desingn*. Pengambilan data dilakukan menggunakan Digital-Kamera sebanyak dua kali pada saat *pretest* dan pada saat *posttest*. Test terdiri atas tiga jenis *phase* yaitu *block time phase*, *flight time phase*, dan *glide time phase*. Tahap yang diukur adalah teknik *grab start* meliputi data tolakan *start* terutama pada *block time phase*. Masing-masing tahap penilaian pada *block time phase* yaitu jarak tempuh, kecepatan rotasi sendi lutut, *impuls*, *leg power*, *ground reaction force (GRF)*. Kemudian data berupa rekaman di *input* menggunakan *software frame dias IV*. Perhitungan statistik menggunakan *SPSS* dengan sub menu *Independent Sample T-test*. Uji hipotesis keseluruhan digabungkan dengan T-Score  $t = 21,903$ ,  $p = 0,000 < 0,05$  maka  $H_0$  ditolak, artinya Terdapat pengaruh yang nyata (signifikan) Setelah dilakukan analisis data diperoleh nilai  $(p) < 0,05$ . Berdasarkan hasil tersebut penelitian ini menyimpulkan bahwa terdapat pengaruh latihan *plyometrics* terhadap hasil tolakan *start* dalam olahraga renang terutama pada *block time phase*.

**Kata Kunci:** *plyometrics*, *tolakan*, *start*, *grab start*, *olahraga renang*, *block time phase*, *jarak*, *kecepatan rotasi sendi lutut*, *impuls*, *leg power*, *ground reaction force/GRF*, *software frame dias IV*.

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**ABSTRACT**

**THE INFLUENCE OF PLYOMETRICS EXERCISE TOWARD THE  
RESULT OF START REPULSION IN SWIMMING**

**Aziz Rubiansyah**  
**0901470**

The aim of this research is to know the influence of plyometric exercise toward the result of start repulsion in swimming, especially in block time phase. The sample used purposive sampling and get eight swimming athlete from UKM AQUATIK UPI. The method that used in this research is quantitative approach, the design called experimental one group pre-test post-test design. The data was taken by video camera two times in pre-test and post-test phase. There are three kinds of test, block time phase, flight time phase, and glide time phase. The step that measured in grab start technique include repulsion start, especially block time phase. Every assessment steps has its own criteria, such us block time phase are focused on travelled distance, knee joint angular velocity, resultant impulse, leg power, ground reaction (GRF). Input data (video record) tested by software frame dias IV and the result data showed in statically, which the T-score is  $t = 21,903$ ,  $p = 0,000 < 0,05$ . It is mean  $H_0$  rejected, or it can show that there is a significant influence of plyometrics exercise toward the result of start repulsion in swimming, especially block time phase.

**Key word:** *plyometrics, repulsion, start, grab start, swimming, block time phase, distance, knee joint angular velocity, resultant impulse, leg max power, ground reaction force/GRF, software frame dias IV.*

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