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# The Effect of *Stork Balance Test* Exercise To Resilience Composition Body Athlete Persema Football

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**Abstract**
Study This aiming for know influence exercise Stork Balance Test to resistance and composition body athlete club football Persema. Balance training is part important in the training program athletes, especially in the sports branch sport like demanding football stability body, coordination, and efficiency movement. The research method used is experiment quasi- experiment with pre-test and post-test design on one group. The sample consists of from 20 athletes selected football purposively. Stork Balance Test Exercise given for 6 weeks with frequency 3 times per week. Instrument measurement covering test endurance (multistage fitness test) and analysis composition body (percentage of body fat and mass) muscle). Research results show existence significant improvement in resilience physical and changes positive on composition body athlete after undergo an exercise program. With Thus, practice balance use method Stork Balance Test can become part effective in the training program physique athlete football for increase performance in a way comprehensive.

***Keywords: Stork Balance Test, Durability, Composition Body***

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## INTRODUCTION

Football is one of the branch demanding sport ability physique tall like strength, speed, power endurance, agility, and balance (Brataatmaja, 2023) . In the game football, balance body is very necessary For maintain position, do movement fast, avoid injuries, as well as guard stability moment do maneuver in static conditions or dynamic (Setiawan & Soniawan, 2021). One of the aspects that are often lacking get attention in the training program is exercise balance , even though matter This own role important in increase performance athlete in a way overall (Saputra et al., 2024) .

Balance is ability somebody For maintain position body in condition stable , good when still (static) or moment moving (dynamic) (Bahtiar Hari Hardovi et al., 2022). Balance is one of component important in fitness supportive body performance movement, especially in activity

sports that require control tall body. According to Pump balance is ability body For control position moment do movement or moment maintain position body in state of silence. While That according to Harsono balance is ability body For maintain center gravity still be on top the support used, either in state of silence or moment move (Setiawan & Soniawan, 2021).

Balance differentiated into two types that is Static balance, namely ability maintain position body moment No move, for example stand with one leg or plank position. Balance dynamic, namely ability guard stability body moment do movement , such as running, jumping, or changed direction in a way suddenly (Fadilah & Wibowo, 2018). In the context of sports, in particular football, balance is very important for guard stability body moment dribbling the ball, holding the ball opponent, do kicks, and moment land from jumps. Structured balance exercises can help increase ability neuromuscular, reducing risk injuries, as well as support efficiency movement athlete in match (Ricky, 2020).

Balance training such as the Stork Balance Test is a simple but effective method for training and stabilizing lower body stability. This exercise focuses on the ability of the core muscles and supporting muscles of the body to maintain optimal posture (Azizi et al., 2024). By increasing body balance, it is expected that there will be an increase in movement efficiency and a decrease in the risk of injury, which indirectly has a positive impact on physical endurance and changes in the body composition of athletes (Gunawan & Mahfud, 2022).Resilience body is one of component main in fitness physical that reflects ability somebody For do activity physique in term time certain without experience excessive fatigue (Syafiq et al., 2024). In context sports, endurance body is very important Because determine how long does a person athlete capable maintain its performance during match or exercise. According to Fox, Bowers, and Foss (1993), endurance body is ability system cardiovascular and respiratory For Work in a way efficient in supply oxygen to all over body during activity long - lasting physical endurance. body relate direct with efficiency function heart , lungs , and system muscle (Indonesia, 2012).

Resilience body differentiated into two types main resilience aerobic (cardiorespiratory endurance): ability body For do activity in long time with intensity currently until light , which is system dependent cardiovascular and respiratory, such as run distance Far (Syafiq et al., 2024). Resilience anaerobic (muscular endurance) ability muscle For do contraction in a way continously in term time certain without experience fatigue, such as sprinting or exercise burden repetitive (Nugroho et al., 2021).

In football, endurance body is very important Because player sued for keep going moving, running, and defending intensity game for 90 minutes or more. Athletes who have resilience body Good will capable guard performance, focus, and coordination movement throughout match (Maulida & Muttaqien, 2021).

Persema football club as one of the team coaching athlete age young, need approach comprehensive and measurable training. Implementation of the training program based on balance like *Stork Balance Test* expected can become solution alternative in increase resilience as well as composition body athlete in a way significant. However so, not yet Lots study scientifically which special researching influence exercise This to resistance and composition body athlete football in general measurable and systematic.

Based on background behind said, research This aiming for analyze influence exercise *Stork Balance Test* to resilience physical and composition body athlete club football Persema. Composition Body (*Body Composition*), Measure body fat percentage, mass muscle, and mass bone. Tools used covering *skinfold caliper* (measurement) folds skin), *bioelectrical impedance analysis* (BIA), and DEXA scan. Important in branch demanding sport low fat proportion like run distance far and gymnastics.

***Skinfold caliper* image**

1. **Circumference Body (*Girth Measurement*)**
    - Measure circumference part body like arms, thighs, waist and chest.
    - Evaluate development muscles and proportions body in sport like lift iron or defend self.

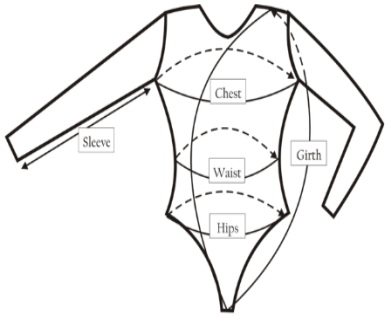


**Figure 1. Circle Body**

**Standard Table Circumference Body**

| SIZE | CHEST | WAIST | HIPS | CIRCUMFERENCE | ARM |
|---|---|---|---|---|---|
| Small child | 20-23 | 17-20 | 19-21 | 36-38 | 11 |
| Small child | 23-25 | 20-22 | 21-23 | 40-42 | 11.5 |
| Child - Medium | 25-27 | 22-23 | 23-25 | 43-44 | 12 |
| Child - Big | 27-30 | 23-25 | 25-28 | 45-48 | 12.75 |
| Adult - Small | 30-33 | 25-27 | 28-31 | 48-50 | 13.5 |
| Adult - Small | 33-36 | 27-29 | 31-33 | 50-54 | 15 |
| Adult - Medium | 36-39 | 29-31 | 33-37 | 54-58 | 15.75 |
| Adult - Large | 39-41 | 31-33 | 36-39 | 59-62 | 16.25 |
| Adult - Large | 41-43 | 33-35 | 39-41 | 62-64 | 17 |

ISAK Manual (Stewart et al., 2011). *International Standards for Anthropometric Assessment*.

**METHOD**

Research used in study This that is with Using Types and Approaches Study quantitative experiment with Pretest-Posttest Control Group (Nur Subekti, 2018). This design allow researcher Measure condition initial (pretest), Giving treatment special to group experiment (Stork Balance Test exercise), then measure back (posttest) for see influence treatment.

Population and Sample Population All over athlete active football club Persema Malang. Samples Taken use purposive sampling technique, namely athletes who are not in injury, Healthy physical, willing follow the training and evaluation program. The number of sample of 20 athletes Variables Study Variables Free : *Stork Balance Test Exercise* Variables Bound : Endurance : Measured using VO2 Max (Beep Test) Composition body Measured through body fat percentage and body weight (BIA or skinfold caliper) Instrument Study VO2 Max Test using Beep Test Composition body using Skinfold caliper Stork Balance Test Exercise Balance exercises stand with one leg in position certain during the specified time,is carried out routinely.

## RESULTS AND DISCUSSION

### Results

**Table 1 Analysis Results Statistics**

| ***Stork Balance Test*** | **N** | ***Mean*** | **SD** | ***Min*** | ***Max*** |
|---|---|---|---|---|---|
| *Pretest* | 20 | 35,7500 | 1.26491 | 34,6421 | 36,8579 |
| *Posttest* | 20 | 39,6842 | 2.07364 | 38,6548 | 40,1736 |

In accordance with table 1 above obtained results statistical analysis on *pretest stork balance test* standard deviation 1.26 minimum value 34.6421 value maximum 36.8579. While after do *treatment stock balance test* at *posttest* obtained mark average 39.6842 standard deviation 2.07364 minimum value 38.6548 value maximum 40.1736.

**Table 2 Normality Test**

| ***Stork Balance test*** | **Statistics** | **N** | **Sig** | **Information** |
|---|---|---|---|---|
| *Pretest* | 0.313 | 20 | 0.05 | Normal |
| *Posttest* | 0.275 | 20 | 0.05 | Normal |

The normality test shown in table 2 indicate that mark significance for *sit and reach pretest* is 0.313 > (0.05), which shows that its value normally distributed. For *posttest* with value 0.275 > (0.05) indicating significance that its value normally distributed, and the test correlation pearson done Because the data normally distributed.

**Table 3 T-Test Results**

| **Posttest Data** | **Treatment** | **T Count** | **P<0.5** | **Information** |
|---|---|---|---|---|
| *Stork Balance Test* | Pretest / Postest | 85,070 | 0,000 | Significant |

Table 3 above obtained the results show that value 85,070 with P value = 0.000 < 0.05 concluded that existence significant improvement between method exercise *stork balance test* against resilience composition body athlete Persema football.

**Discussion**

Research result show that exercise balance use *Stork Balance Test* give significant influence to resilience physical and composition body athlete PERSEMA football. Average increase Power stand cardiovascular and decline body fat percentage show that exercise This No only impact on balance body, but also supports improvement performance athlete in a way Overall. Influence to Resilience Body athletes, which are measured through multistage fitness test (*beep test*), shows increase in $VO_2$ max after a 6- week training program. This show that exercise balance, although static, can support efficiency neuromuscular , reducing risk fatigue early, and strengthen core stability, all of *which* play a role in resilience physique moment compete (Miftah, 2018).

*Stork Balance Test* Exercise push activation postural muscles, including muscle stomach, back lower, and legs. The muscles this is very important in guard Posture body moment running, kicking , and maneuvering fast in match (Mocanu, 2022) . Increase activation muscle This impact straight to efficiency motion and power hold. Influence to Composition Body athletes also experience change positive. Decrease body fat levels and a little improvement mass muscle show that exercise balance also helps burning calories in a way No direct and strengthening muscles support (Abbasi et al., 2022) .

Although exercise *Stork Balance Test* No exercise aerobics or burden in a way live , practice This capable activate core and leg muscles with duration time certain , so that provide sufficient metabolic stimulus for support formation ideal athlete body (Wahyudi, 2018). Adjustment with Theory and Research Previously results study This in line with study previously by ( Grueva-Pancheva , 2021) which stated that exercise balance can increase control posture, stability, and support improvement performance physique in a way Overall . The theory from Clark et al. (2012) also supports findings this, where the balance good body is foundation in pattern movement functional, including in sport like football.

Balance exercises are also mentioned in journal sport as one of the method prevention injury and improvement efficiency movement, which is very much needed by athletes active football in a way dynamic on the field (DENİZ & CAN, 2018). Coach can consider enter exercise

*Stork Balance Test* in a regular exercise program as part from core strengthening and enhancement balance athlete. This exercise cheap, easy done, and provide benefit double to performance and composition body (Tama et al., 2024).

## CONCLUSION

Based on results research and data analysis that has been done, then can concluded things as following: The Stork Balance Test exercise provides influence positive to resilience body athlete PERSEMA football. After follow a training program for 6 weeks, it happened improvement ability resilience physical as indicated by the increase results $VO_2$ max test (beep test). This is show that exercise balance can support efficiency movement, strengthening core muscles, and improve Power stand body in a way overall. Stork Balance Test exercise has an effect to change composition body athlete. Found existence decline body fat levels and increase control postural muscles. This shows that although exercise This no nature aerobics in a way directly, but still capable give impact to metabolism body and fitness physical. Balance exercises such as the Stork Balance Test can made into part from a regular exercise program in coaching athlete football. Besides being easy done and not done need tool special, training This proven effective in increase performance athlete in a way functional, as well as support prevention injury consequence imbalance body.

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Gratitude writer raise it to the presence of God Almighty because on His grace and blessings, the author can finish research entitled " The Effect of Stork Balance Test Exercise on Durability and Composition Body Athlete PERSEMA Football " with Good. Writer realize that study This No will can completed without help and support from various parties. Therefore that, with all humility heart, writer to pronounce accept the greatest love to: Parents and family beloved, above prayers, moral support, and encouragement that never fails Once stop. Party management and coaches of PERSEMA Malang, who have give permits and facilities to writer in do research on its athletes. All over athlete PERSEMA football, which has willing become respondents and participating active in the research process This. Friends comrades and comrades students, who always give support, motivation, and help in the process of data collection and preparation report. Writer realize that study This Still Far from perfect . Therefore that, the author really hopes

constructive criticism and suggestions for improvements in the future. Finally, hopefully study This can give benefits and become contribution positive in the world of sports, in particular in coaching athlete football.

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