

## Understanding Early Injury Management Using the Rice Method in Futsal Extracurricular Players

Muhammad Al Hafid<sup>1A-E\*</sup>, Ugi Nugraha<sup>B-D</sup>, Yonifia Anjanika<sup>3B-D</sup>

<sup>1,2,3</sup> Universitas Jambi, Jambi, Indonesia

[muhammadalhapid0@gmail.com](mailto:muhammadalhapid0@gmail.com)<sup>1\*</sup>, [ugi.nugraha@unja.ac.id](mailto:ugi.nugraha@unja.ac.id)<sup>2</sup>, [yonifia.anjanika@unja.ac.id](mailto:yonifia.anjanika@unja.ac.id)<sup>3</sup>

### ABSTRACT

There are quite a lot of inter-school futsal tournaments in Jambi City, including those participated by the futsal team of SMA Negeri 11 Jambi City. However, in its implementation, it was still found that injury management was less than optimal, mainly due to the lack of first aid facilities and players' knowledge regarding early injury management. This study aims to determine the level of understanding of extracurricular futsal players at SMA N 11 Jambi City regarding early injury management using the RICE (Rest, Ice, Compression, Elevation) method. This study is a descriptive study with a quantitative approach. The sample used a total sampling technique involving all 21 extracurricular futsal members. The results showed that the players' understanding of the translation indicator was in the good category at 78%, the interpretation indicator was 76% (good category), and the extrapolation indicator was 80% (good category). Overall, the players' level of understanding regarding early injury management using the RICE method was included in the good category with an average percentage of 78%. Thus, although understanding is considered good, there are still some players who have not mastered proper injury management, so education and the provision of adequate injury management facilities are needed.

### ARTICLE HISTORY

Received: 2025/10/24

Accepted: 2025/10/28

Published: 2025/10/31

### KEYWORDS

Method;  
RICE;  
Injury;  
Management;  
Futsal.

### AUTHORS' CONTRIBUTION

A. Conception and design of the study;  
B. Acquisition of data;  
C. Analysis and interpretation of data;  
D. Manuscript preparation;  
E. Obtaining funding

**Cites this Article** : Hafid, Muhammad Al; Nugraha, Ugi; Anjanika, Yonifia. (2025). Understanding Early Injury Management Using the Rice Method in Futsal Extracurricular Players. **Competitor: Jurnal Pendidikan Kepeleatihan Olahraga**. 17 ( 3 ), p.3019-3028

## INTRODUCTION

Sport is a physical activity that uses parts or the entire body to move and perform activities that are good for health. It helps stimulate muscles and other body parts, especially if done regularly. This is because exercise makes our bodies healthy and fit and maintains our immune system (Prasepty, 2017). According to the Ministry of Education and Culture (Kemdikbud, 2020), exercise means exercising. Each sport has different goals to be achieved. Furthermore, sport is widely recognized throughout the world, especially in Indonesia. Many sports in Indonesia have entered and become well-known among the public. These include soccer, basketball, volleyball, sepak takraw, futsal, and others.

Futsal is a team sport played on a small, hard field similar to a basketball court (Narlan et al., 2017). Futsal is played by two teams, each consisting of five athletes, including a goalkeeper. According to (Prabowo et al., 2020), futsal is a game played on a relatively smaller field, with very fast and dynamic gameplay and stricter rules. Futsal requires a high level of technique, tactics, and physical fitness. Futsal can be defined as a ball game played by two teams, each consisting of five players. In addition to the five main players, each team is also permitted to have reserves. People can see futsal almost everywhere. This game involves almost all parts of the body, including the head, trunk, and feet, except for the goalkeeper, who is permitted to use his hands inside the penalty area.

The goal of futsal is to score as many goals as possible by manipulating the ball with the feet (Hutami & Iswana, 2020). Futsal uses a ball as the playing medium. Futsal matches can be played outdoors or indoors. In addition to the five main players, each team is also permitted to have several reserves. Unlike other indoor soccer games, the futsal field is demarcated by lines, not boards or a net.

In Jambi City, numerous futsal tournaments are held, primarily among students. SMA Negeri 11 Jambi City, one of the teams participating in city-wide and provincial student championships, often encounters suboptimal service for injured athletes during matches. This is due to the lack of first aid equipment or ice for first aid treatment during training and matches. Furthermore, when an athlete is injured, they are tended to by their teammates, who then seek first aid equipment or ice for treatment. Another challenge is the lack of understanding of athletes' understanding of injury management and the severity of injuries experienced in futsal. Often, athletes insist on playing even when injured.

Sports injuries are a common risk faced by athletes (Haryanto et al., 2024), including futsal players, both in training and matches. Injuries can occur due to various factors, such as inadequate warm-up, improper technique, or intense physical contact (Chyi et al., 2024). Proper first aid treatment for sports injuries is crucial to prevent more serious conditions, expedite the recovery process, and minimize long-term impacts (Khan et al., 2023). However, players' lack of understanding of first aid procedures is often a major obstacle, particularly in community-based or recreational sports like futsal. This lack of understanding can exacerbate injuries that could otherwise be treated simply and effectively. Therefore, it is crucial to identify and analyze the extent to which futsal players understand first aid procedures for sports injuries in an effort to improve their safety and quality of play.

Injuries that are not treated appropriately from the outset risk further complications, such as more severe tissue damage or prolonged impairment of bodily functions (Liputo et al., 2024; Yasin et al., 2025). In the context of sports like futsal in general, where the intensity of play is quite high and physical contact is frequent, the risk of injury is quite high (Puspitasari, 2019). Unfortunately, many players, especially at the amateur level, do not have adequate knowledge of first aid procedures such as the RICE principle (Rest, Ice, Compression, Elevation) or other preventive measures (Kwiecien, 2023).

The RICE method is a common first aid technique for injuries during sports. RICE stands for Rest, Ice, Compression, and Elevation, each of which plays a crucial role in reducing pain and swelling, and preventing further injury (Athoillah et al., 2024). Rest means stopping physical activity on the injured body part to prevent further damage (Fitriana et al., 2023). Ice involves applying a cold compress to the injured area to reduce pain and swelling (Athoillah et al., 2024). Compression involves wrapping the injured area with an elastic bandage to reduce swelling and provide stabilization. Elevation involves raising the injured body part above the level of the heart to help reduce blood flow to the injured area, thereby reducing swelling and pain. The RICE method is an important initial treatment step because it can be performed quickly, easily, and does not require complex medical equipment (Mukrim et al., 2025). Proper application of this method can help accelerate the recovery process and prevent injuries from developing into more serious conditions (Oktavian, Joesoef, 2021). Therefore, understanding and skills in implementing the RICE method are crucial, especially for players in contact sports like futsal, which have a high risk of injury.

This lack of understanding can delay what should be rapid and effective treatment, potentially disrupting individual and team performance as a whole. Therefore, analyzing players' level of understanding of first aid for injuries is a crucial step in increasing their awareness and ability to manage the risk of injury on the field.

Futsal is a sport with a high risk of injury due to the high intensity of movement, physical contact between players, and sometimes less than ideal field conditions. Injuries can occur in various forms, ranging from minor injuries such as bruises and abrasions to serious injuries such as sprains, fractures, or muscle strains. However, players' level of understanding of how to manage injuries directly on the field varies widely. Understanding initial steps such as immobilization techniques, the use of cold compresses, or how to stop bleeding can be key factors in preventing further injury complications. Unfortunately, a lack of education about the importance of first aid often leads players or teammates to take inappropriate actions, which can actually worsen the injury. Therefore, it is important to examine the extent to which futsal players understand and are able to apply basic first aid principles to create a safer and more supportive playing environment.

Appropriate initial treatment plays a vital role in preventing more serious injuries, speeding up the recovery process, and reducing potential long-term impacts. However, in reality, many players still do not understand the appropriate steps for injury management, such as the RICE principle (Rest, Ice, Compression, Elevation) or basic first aid techniques.

## METHODS

This study uses a descriptive method with a quantitative approach that aims to determine the level of understanding of futsal extracurricular players at SMA Negeri 11 Kota Jambi regarding early injury management using the RICE method. The research

sample was all 21 futsal extracurricular members, using a total sampling technique. The research instrument was a questionnaire compiled based on three indicators of understanding, namely translating, interpreting, and extrapolating. Data from the questionnaire were collected and then analyzed using descriptive percentage analysis techniques. The percentage results were interpreted into categories of understanding levels, namely very good, good, sufficient, and poor, to determine the description of the players' ability to understand early injury management using the RICE method.

## RESULTS AND DISCUSSION

### Result

In general, this study aimed to determine the level of understanding of futsal extracurricular players at SMA Negeri 11 Kota Jambi regarding early injury management using the RICE method. Understanding was measured using three main indicators: Translating, Interpreting, and Extrapolating. The collected questionnaire data was then analyzed using descriptive percentage techniques to obtain an overview of the players' level of understanding for each indicator. The results of the study for each indicator are presented below.

The "translating" indicator was used to assess the extent to which futsal extracurricular players at SMA Negeri 11 Kota Jambi were able to understand and explain the basic concepts of early injury management using the RICE method. Based on the data analysis, a percentage of 78% was obtained, indicating that the players' understanding of this indicator was in the good category. This means that most players were able to recognize basic steps such as rest, ice application, compression bandages, and elevation of the injured body part. However, 22% of players were still unable to correctly translate injury management procedures, particularly in linking theory to appropriate actions on the field. This condition indicates that although the basic understanding is generally good, material reinforcement and practical assistance are needed so that all players can identify and communicate injury management appropriately and consistently.

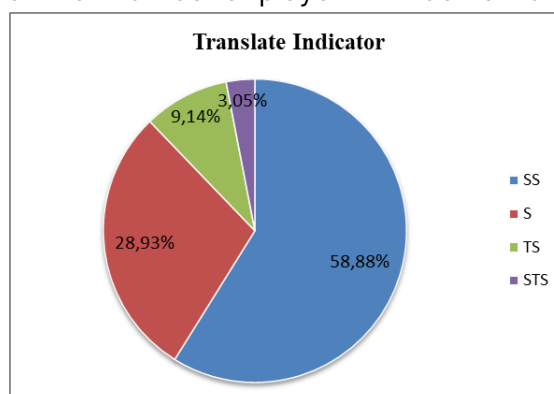
**Table 1.**

Results of Indicators Translating Early Handling of Injuries using the RICE Method

Results of Indicators Translating Early Handling of Injuries using the RICE Method					
No Item	Number of Items	Score	F	Total Average Score	%
1,2,4,5,6,7,8,10, 11,13,14,15	12	SS (4)	116	38.67	58.88%
		S (3)	76	19	28.93%
		TS (2)	36	6	9.14%
		STS (1)	24	2	3.05%
Total			252	65.667	100
Maximum Score			84		
Percentage			78%		
Criteria			Good		

A closer look at the results of the questionnaire completed by the sample shows that 58.88% of players responded with a Strongly Agree (Strongly Agree) response, while 28.93% responded with a Agree (Strongly Agree). Meanwhile, 9.14% of players responded with a Disagree (Strongly Disagree) response, and 3.05% responded with a Strongly

Disagree (Strongly Disagree). These results indicate that the majority of players have a good understanding and re-explaining of the steps for early injury management using the RICE method, although a small number of players still do not fully understand it.



**Figure 1.**

#### Cumulative Percentage of Player Responses on the Translating Indicator

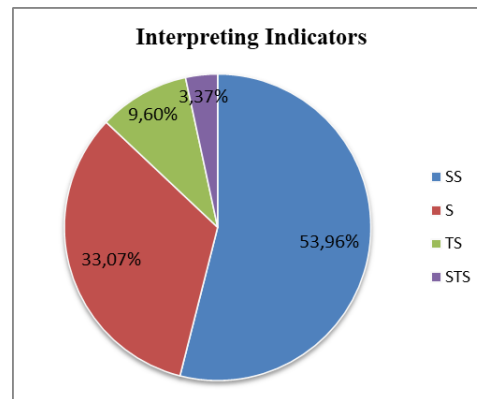
The next indicator is interpretation, which aims to determine the players' ability to understand the meaning, purpose, and application of the RICE method for injury management in more depth. Based on the data analysis, a percentage of 76% was obtained, indicating that the players' level of understanding for this indicator is in the good category. This means that most players are able to interpret the stages of injury management and know when and how the method should be applied when an injury occurs during training or matches. However, 24% of players still cannot interpret the RICE procedure correctly, especially in distinguishing between injury situations that require immediate treatment and advanced treatment. This finding indicates that although understanding is quite good, additional explanation and training are still needed so that all players have a complete understanding of the application of the RICE method in various injury conditions on the field.

**Table 2.**

Table of Results of Indicators Interpreting Early Handling of Injuries using the RICE Method

No Item		Number of Items	Score	F	Total Average Score	%
16,17,18,20,21,22,23, 24,25,26,29,30	12	SS (4)	104		36.67	53,96%
		S (3)	85		21.25	33,07%
		TS (2)	37		6.17	9,60%
		STS (1)	26		2.17	3,37%
Total			252		64.25	100
Maximum Score			84			
Percentage			76%			
Criteria			Good			

A closer look at the questionnaire results completed by the sample reveals that the Interpretation indicator shows that the majority of players strongly agree (53.96%), followed by Agree (33.07%). Meanwhile, 9.60% of players disagreed (9.60%), and 3.37% strongly disagreed (3.37%). These results indicate that the majority of players have a good understanding of early injury management using the RICE method, although a small number of players do not yet fully understand the concept.



**Figure 2.**

Cumulative Percentage of Player Responses on Interpreting Indicators

The extrapolation indicator is used to measure players' ability to apply knowledge of early injury management using the RICE method to real-life situations when an injury occurs on the field. The analysis yielded a score of 80%, indicating that players' understanding of this indicator is in the good category. This illustrates that most players are able to connect theoretical knowledge with immediate actions, such as providing rest, applying ice, applying pressure to the injured area, and performing proper elevation when an injury occurs. However, 20% of players are still unable to apply these procedures optimally, particularly in terms of decision-making speed and initial action accuracy. Therefore, although the ability to apply the RICE method is quite good, practical injury management training is needed so that all players are familiar with and skilled in performing first aid when an injury occurs on the field.

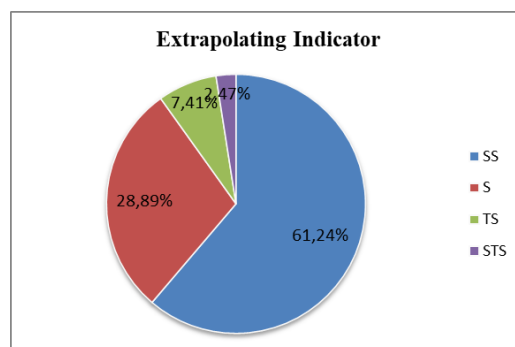
**Table 3.**

Results of Indicators Extrapolated Early Handling of Injuries using the RICE Method

No Item	Number of Items	Score	F	Total Average Score	%
31,33,34,36,38,40	6	SS (4)	62	41.33	61.24%
		S (3)	39	19.50	28.89%
		TS (2)	15	5	7.41%
		STS (1)	10	1.67	2.47%
Total			126	67.50	100
Maximum Score			84		
Percentage			80%		
Criteria			Good		

And looking in detail from the results of the questionnaire filled out by the sample, in the Extrapolation indicator it was found that 61.24% of players gave a Strongly Agree (SS) answer and 28.89% were in the Agree (S) category. Meanwhile, as many as 7.41% of players chose the Disagree (TS) category and 2.47% chose Strongly Disagree (STS). These results indicate that the majority of players are able to apply knowledge about early injury management with the RICE method in real situations on the field. However, there are still a small number of players who have not been able to apply these treatment steps consistently and correctly so that practical injury management training is needed to improve their skills in real situations.





**Figure 3.**

Cumulative Percentage of Player Responses on Extrapolated Indicators

Based on the three measured indicators, namely Translating, Interpreting, and Extrapolating, it can be concluded that the level of understanding of the futsal extracurricular players at SMA Negeri 11 Kota Jambi regarding early injury management using the RICE method is in the good category with an average percentage of 78%. However, some players still lack optimal understanding and application skills, so further educational activities and direct injury management practice are needed. These findings form the basis for further analysis in the following discussion section.

## Discussion

Sports injuries are a common risk faced by athletes (Haryanto et al., 2024), including futsal players, both during training and matches. Injuries can occur due to various factors, such as inadequate warm-up, improper technique, or intense physical contact (Chyi et al., 2024). Proper first aid treatment for sports injuries is crucial to prevent more serious conditions, speed up the recovery process, and minimize long-term impacts (Khan et al., 2023). However, players' lack of understanding of first aid treatment is often a major obstacle, especially in community-based or recreational sports like futsal. This lack of understanding can exacerbate injuries that should be easily and effectively treated. Therefore, it is crucial to identify and analyze the extent to which futsal players understand first aid treatment for sports injuries to improve their safety and quality of play.

Good and appropriate treatment is crucial because it determines how long it takes for an injury to heal (Atmojo & Ambardini, 2019). If initial treatment is inadequate, there are risks and can result in injuries that take longer to heal. The commonly recognized first-line treatment for injuries is the Rest, Ice, Compression, and Elevation (RICE) method (Simatupang, 2016)).

The Translation Indicator obtained a score of 78%, indicating that the overall level of understanding of the futsal extracurricular players at SMA N 11 Kota Jambi regarding early injury management using the RICE method is categorized as good. Therefore, 22% of students who responded did not understand early injury management. The Interpretation Indicator obtained a score of 76%, indicating that the overall level of understanding of the futsal extracurricular players at SMA N 11 Kota Jambi regarding early injury management using the RICE method is categorized as good. Therefore, 24% of students who responded did not understand early injury management.

The extrapolation indicator obtained a score of 80%. This means that the overall level of understanding of the futsal extracurricular players at SMA N 11 Kota Jambi regarding early injury management using the Rice Method is in the good category. Therefore, 20% of students who responded did not have an understanding of early injury management.

The calculation of the level of understanding of the futsal extracurricular players at SMA N 11 Kota Jambi regarding early injury management using the Rice Method is in the good category, with a percentage of 78%.

However, some players still do not understand and apply the RICE method correctly. In the interpretation and extrapolation indicator, it was found that some players had difficulty determining the appropriate procedure for their injury. This could be due to a lack of direct experience in injury management or the lack of specific guidance from healthcare professionals or coaches with first aid competency. This situation indicates that theoretical knowledge alone is insufficient without practical training in injury management. Based on the results obtained, the futsal extracurricular at SMA N 11 Jambi City has been established for quite some time and has frequently participated in both student and team competitions. The results obtained regarding the level of player understanding of early injury management using the Rice Method have been prepared by the coach and trained as early as possible. According to the coach's statement, each match is sometimes only accompanied by a supervisor, so injury management needs to be provided to each player.

Therefore, efforts are needed to improve coaching through regular injury management training, the provision of adequate first aid facilities, and the integration of first aid knowledge into the extracurricular development program. This way, players not only understand the concept of injury management but are also able to apply it quickly, accurately, and independently when an injury occurs on the field.

## CONCLUSION

Based on the results of the study, it can be concluded that the level of understanding of futsal extracurricular players at SMA Negeri 11 Kota Jambi regarding early injury management using the RICE method is in the good category, with an average percentage of 78%. In more detail, the understanding of the Translating indicator is in the good category with a percentage of 78%, the Interpreting indicator is also in the good category with a percentage of 76%, and the Extrapolating indicator shows a percentage of 80% which is also included in the good category. These results indicate that in general the players have understood the basic steps of injury management using the RICE method, although it still needs improvement through direct practice and ongoing mentoring so that the ability to apply it in the field can be more optimal.

## REFERENCES

- Athoillah, R., Azza, A., & Hamid, M. A. (2024). Pengaruh Pendidikan Kesehatan Metode Rice Terhadap Keterampilan Pertolongan Pertama Cedera Olahraga Sprain Pada Palang Merah Remaja Sma Negeri 1 Jenggawah: The Influence Of Rice Method



- Health Education On First Aid Skills For Sprain Sports Injuries In Red. Assyifa: Jurnal Ilmu Kesehatan, 2(2), 267-279.
- Atmojo, W. T., & Ambardini, R. L. (2019). Efektivitas Kombinasi Terapi Dingin Dan Masase Dalam Penanganan Cedera Ankle Sprain Akut. *Medikora*, 16(1), 91-110. <https://doi.org/10.21831/medikora.v16i1.23485>
- Chyi, T., Lu, F. J. H., Hsieh, Y. C., Hsu, Y. W., Gill, D. L., & Fang, B. Bin. (2024). Relationship Between Athletes' History of Stressors and Sport Injury: A Systematic Review and Meta-Analysis. *Perceptual and Motor Skills*, 131(1), 192-218. <https://doi.org/10.1177/00315125231216329>
- Fitriana, N. F., Ratna Estria, S., Hakim Nitiprodjo, A., Riskiyani Dwi Nandia, J., Ratna Juwita, D., Dwi Aprilina, H., Dhiah Anggraeni, A., Andodo, C., Leona Amelia, V., & Suparti, S. (2023). Optimalisasi Keterampilan Pertolongan Pertama Cedera Otot Menggunakan Metode Rest, Ice, Compress and Elevate (Rice Management). *Jurnal Abdi Masyarakat*, 7(1), 23-29. <https://doi.org/10.30737/jaim.v7i1.5050>
- Haryanto, A. I., Suardika, I. K., Kadir, S., Nopiyanto, Y. E., & Garcia-Carrillo, E. (2024). Self-Massage Training in Overcoming Post-Training Fatigue for Running Athletes. *Jurnal Pengabdian UNDIKMA*, 5(3), 358. <https://doi.org/10.33394/jpu.v5i3.12435>
- Hutami, M. A., & Iswana, B. (2020). Kepercayaan Diri Dengan Hasil Shooting Pada. 2(2), 35-41.
- Kemdikbud. (2020). Merdeka belajar. Kementerian Pendidikan Dan Kebudayaan, 1-19.
- Khan, A., Jamil, M., Butti, S., Ahmad, I., Ullah, H., Khan, A., & Imtias. (2023). THE THERAPIST; Causes, Precautions and Management of Risk Factors Associated with Sports Injuries. *Emotions and the Therapist*, 4(3), 75-109. <https://doi.org/10.4324/9780429474217-4>
- Kwiecien, S. Y. (2023). Is it the End of the Ice Age? *International Journal of Sports Physical Therapy*, 18(3), 547-550. <https://doi.org/10.26603/001c.74273>
- Liputo, G. P., Antu, M. S., Yusuf, N. A. R., & Wulansari, I. (2024). Pengaruh Pemberian Informasi Metode Rice Terhadap Tingkat Pengetahuan Penanganan Dini Cedera Pada Pemain Futsal. *Jambura Journal of Sports Coaching*, 6(2), 98-104. <https://doi.org/10.37311/jjsc.v6i2.25254>
- Mukrim, H., Rusli, Arimbi, Arsal Widyasatuti, U., Dewi, A. S., & Anggraeni. (2025). Edukasi Penanganan Cedera Awal Dengan Metode RICE Kepada Peserta Didik di SMP Negeri 3 Segeri. 5(3), 817-822. <https://www.jamsi.jurnal-id.com/index.php/jamsi/article/download/1796/1026/10149>
- Narlan, A., Juniar, D. T., & Millah, H. (2017). Seri Pendidikan ISSN 2476-9312 Kata Kunci : Pengembangan , Instrumen , Futsal Seri Pendidikan ISSN 2476-9312. 3(2), 241-247.
- Prabowo, D., Setiakarnawijaya, Y., & Siregar, N. M. (2020). Available online at : <http://journal.unj.ac.id/unj/index.php/gjik> Permalink / DOI: [https://doi.org/10.21009/GJIK.112.08.11\(02\)](https://doi.org/10.21009/GJIK.112.08.11(02)) 165-175 .
- Prasepty, W. (2017). *Journal of Physical Education and Sports Pengembangan Instrumen Tes Kebugaran Jasmani untuk Anak TK Usia 4-6 Tahun Abstrak*. 6(2), 205-210.

- Puspitasari, N. (2019). Faktor Kondisi Fisik Terhadap Resiko Cedera Olahraga Pada Permainan Sepakbola. *Jurnal Fisioterapi Dan Rehabilitasi*, 3(1), 54–71.  
<https://doi.org/10.33660/jfrwbs.v3i1.34>
- Simatupang, N. (2016). Pengetahuan Cedera Olahraga Pada Mahasiswa Fakultas Ilmu Keolahrgaan UNIMED. *Jurnal Pedagogik Keolahragaan*, 02(01), 31–34.
- Yasin, N., Jusuf, muhammad isman, Hiola, dewi suryaningsi, Pomalango, zulkifli B., & Liputo, gusti pandi. (2025). Analisis Tingkat Pengetahuan Pemain Mini Soccer Dalam Analysis of Mini Soccer Players' Knowledge Level in First Aid. 7(1), 58–65.