



Department of Sports & Exercise Science

Organises

Dynamic Two-day Biomechanics Workshop on

Hands-on Training With Nordbord & Forcedecks



17th & 18th May, 2024

Conveners

Dr. Pasupuleti Visweswara Rao

Associate Dean, School of Allied Health Sciences
REVA University

Dr. Shilpa B. R.

Director, School of Allied Health Sciences
REVA University

Guest Speakers

Dr. Saju Joseph

Ex-High Performance Director

Mr. Vijay Dhamodharan

Sports Performance Management Consultant - SDAT

Workshop Organisers

Dr. Srividhya

HOD, Department of Sports and Exercise Science
REVA University

Mr. Manikandan K.

Assistant Professor, Department of Sports and Exercise Science
REVA University

Mr. Sudip Ghatak

Teaching Associate, Department of Sports and Exercise Science
REVA University

Workshop Student Coordinators

Mr. Chichanbemo Kikon James

Mr. Mownish

B.Sc II Year, Department of Sports and Exercise Science
REVA University

Report of the event.

The Department of Sports and Exercise Science organised a **dynamic two-day biomechanics workshop focused on hands-on training with NordBord and ForceDecks**. The workshop was held on May 17th from 10:00 AM to 5:30 PM and on May 18th from 9:00 AM to 6:00 PM.

Participants

Total No.of participants - 26

No.of participants in REVA University - 14

No.of participants in external/outside sources - 12

THEME : Dynamic Two-Day Biomechanics Workshop On Hands-On Training With Nordbord & Forcedecks

The Dynamic Two-Day Biomechanics Workshop on Hands-on Training with NordBord & ForceDecks brought together experts, professionals, and enthusiasts in the field to delve deep into the practical applications of cutting-edge equipment. Over the course of two intensive days, participants engaged in hands-on training sessions, gaining invaluable insights into the capabilities of NordBord & ForceDecks technologies.

Key highlights of the workshop included interactive demonstrations showcasing the functionalities of NordBord & ForceDecks, enabling participants to explore real-world biomechanical analyses and assessments. Attendees had the opportunity to learn from experienced instructors, exchange ideas, and collaborate on innovative approaches to biomechanics research and practice.

The workshop fostered a collaborative environment where participants actively engaged in discussions, shared best practices, and explored the latest advancements in biomechanical measurement techniques. Through practical exercises and case studies, attendees gained practical skills and knowledge that they could directly apply in their respective fields.

Overall, the workshop was a resounding success, providing attendees with a comprehensive understanding of NordBord & ForceDecks technologies and their applications in biomechanics research, sports performance, injury prevention, and rehabilitation. Participants left the workshop equipped with newfound expertise and a network of peers, ready to leverage their learning for continued advancements in the field of biomechanics.

11 OF UNIVERSITY
21 RECOGNITION
YEARS OF
ACADEMIC
EXCELLENCE



REVA
UNIVERSITY
Bengaluru, India

Department of Sports and Exercise science
School of Allied Health Sciences

Organises

Dynamic Two-day Biomechanics Workshop on

Hands-On Training with NORDBORD and FORCE-DECKS

President

Dr. Pasupuleti Visweswara Rao

Associate Dean, School of Allied Health Sciences, REVA University

Chief Guest

Dr. Saju Joseph

Former High Performance Director, SAI

Guest of Honour's

Dr. Shilpa B. R.

Director, School of Allied Health Sciences
REVA University

Dr. S. Srividhya

HOD, Department of Sports & Exercise Science
REVA University

Date : 17th May, 2024

Time : 10:00 AM

Venue : Arya Bhata Seminar Hall

Rukmini Educational
Charitable Trust

www.reva.edu.in

Day - 1

COURSE LAYOUT : DAY-1

NordBord:

Session	Topic	Time	Mode	Presenter & venue
1	Functional anatomy and orientation of Hip & Thigh musculature	10.30 am to 11.30 am	Theory	Manikandan.K (Aryabhata seminar hall)
2	Physiology of muscular contraction	11.30 am to 12.15 pm	Theory	Dr. Srividhya (Aryabhata seminar hall)
3	How is the hamstring important in sports? Why is a hamstring test needed especially in sports?	12.15 pm to 01.00 pm	Theory	Dr. Saju Joseph (Aryabhata seminar hall)
4	Equipment introduction and implementation	01.00 pm to 01.30 pm	Theory	Manikandan.K (Aryabhata seminar hall)
01.30 pm to 2.30 pm - Lunch time				
5	Assessment parameters of equipment & Interpretation	2.30 pm to 3.30 pm	Theory and Practical	Dr. Saju Joseph Manikandan.K (Fitness center)
6	Hands-On Training with equipment	3.30 pm to 5.30 pm	Practical	Manikandan.K (Fitness center)
7	Q & A and discussion session	5.30 pm to 6.00 pm		Dr. Saju Joseph (Fitness center)

A workshop on **Dynamic Two-Day Biomechanics Workshop On Hands-On Training With Nordbord & Forcedecks** was held on 17-05-2024 and 18-05-2024 at REVA university. The event aimed to gathering participants from various sectors to discuss, learn, and collaborate on sports science field. The highlight of the workshop was the facilitation of the Chief Guest, **Dr. Saju Joseph**, who holds the prestigious position of Ex- High Performance Director of Sports Authority of India.

Lighting of the Lamp

The event commenced with the lighting of the ceremonial lamp. The Chief Guest **Dr. Saju Joseph** along with **Dr. Pasupuleti Visweswara Rao, Dr. Shilpa B.R, Dr. Srividhya** participated in the lamp-lighting ceremony, symbolizing the dissemination of knowledge and wisdom.



Introduction and Felicitation

Following the lighting ceremony, introduced the Chief Guest to the audience. The introduction highlighted **Dr. Saju Joseph's** significant contributions to sports science field and society.

The Chief Guest was then felicitated with a token of appreciation by **Dr. Pasupuleti Visweswara Rao, Dr. Shilpa B.R, Dr. Srividhya.**



Addressing:

Following the facilitation, our chief guest **Dr. Saju Joseph**, Dean **Dr. Pasupuleti Visweswara Rao**, Director **Dr. Shilpa B.R**, and HOD **Dr. Srividhya** took the stage to deliver the keynote address. In their speech, they emphasized the importance of this workshop, biomechanics, strength and conditioning, and the relevance of these topics in today's sports science context. After the address, the workshop sessions commenced.



Session - 1

Topic - Functional anatomy and orientation of Hip & Thigh musculature

Time - 10.30 am to 11.30 am

Mode - Theory

Presenter - Manikandan.K

Venue - Aryabhata seminar hall

In the first session, Mr. Manikandan shared his extensive knowledge about muscular anatomy and its functional relationship with movement. His presentation provided a deep dive into the intricacies of how muscles work in coordination to facilitate various movements, offering participants new insights and a fresh perspective on the subject. This session was particularly enlightening, as it bridged theoretical knowledge with practical applications, thereby enriching the participants' understanding and sparking thoughtful discussions on improving movement efficiency in their respective fields.

Session - 2

Topic - Physiology of Muscular Contraction.

Time - 11.30 am to 12.15 pm

Mode - Theory

Presenter - Dr.Srividhya

Venue - Aryabhata seminar hall

Following the conclusion of the first session, the second session kicked off with Dr. Srividhya exploring the physiological aspects of muscular contraction. Delving deeper into the subject, she briefly explained the fundamental basis of how muscles contract. Her insightful presentation provided a new level of enlightenment to the participants, enhancing their understanding of the intricate mechanisms underlying muscular function.



Session - 3

Topic - How Hamstring Muscles is Important in Sports?
Why Hamstring Test Needed Especially in Sports?

Time - 12.15 pm to 01.00 pm

Mode - Theory

Presenter - Dr. Saju Joseph

Venue - Aryabhata seminar hall

Following the interactive session, the next segment of the workshop commenced with Dr. Saju Joseph taking the stage. Dr. Saju Joseph delved into the critical role of the hamstring muscles, particularly in sports and among athletic populations. He highlighted the significance of the hamstrings in various sports skills, emphasizing their crucial function in deceleration. Dr. Joseph's insights provided a fresh perspective to the participants, enhancing their understanding of the biomechanical importance of the hamstrings in athletic performance. His detailed exploration offered new enlightenment to the attendees, enriching their knowledge and appreciation of sports physiology.





Session - 4

Topic - NORDBORD : Equipment Introduction & Implementation.

Time - 01.00 pm to 01.30 pm

Mode - Theory

Presenter - Mr. Manikandan.K

Venue - Aryabhatta seminar hall

Following the knowledge session by Dr. Saju Joseph, the pre-lunch session was commenced by Mr. Manikandan. In this session, Mr. Manikandan explored the highlights of the Day 1 equipment, NORDBORD. He provided clear input to the participants about the introduction and implementation of the equipment along with the assessment parameters. Mr. Manikandan explained both the hardware and software setup of the equipment in a theoretical manner, which offered new enlightenment to our participants. This session was particularly impactful, as it deepened the participants' understanding and enhanced their ability to utilize NORDBORD effectively.



Lunch break 01.30 pm to 02.30 pm

Post lunch session:

Session - 4 and 5

**Topic - 4. Assessment parameters of equipment and interpretation.
5. Hands on training with equipment.**

Time - 02.30 pm to 05.30 pm

Mode - Theory & practicals

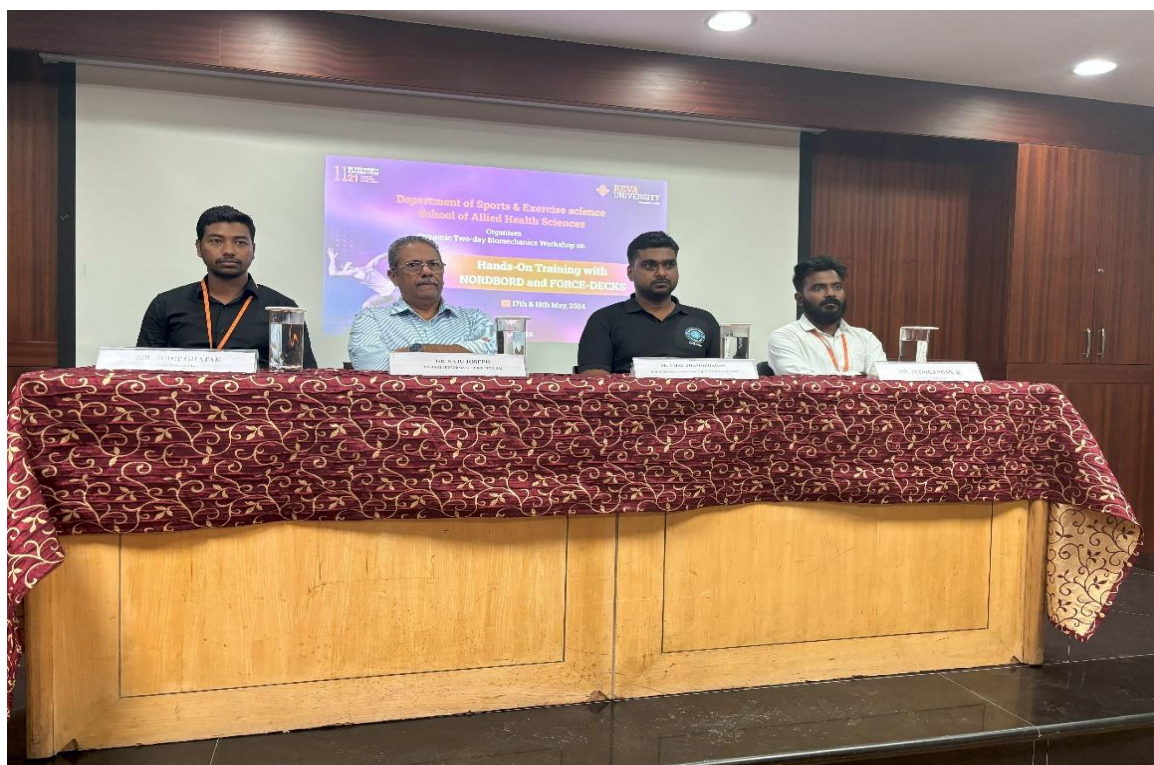
Presenter - Dr. Saju Joseph and Mr. Manikandan.K

Venue - Fitness center

Following lunch, the workshop resumed with highlights of the day, including practical sessions and hands-on training. Dr. Saju Joseph and Mr. Manikandan led the sessions, starting with the interpretation of assessment parameters. Mr. Manikandan explored the equipment, specifically the NORDBORD hardware and software, demonstrating the procedures and equipment setups. He explained potential errors participants might encounter and how to resolve them. Prior to this, he provided a detailed explanation and demonstration of Nordic curls, covering body position, control techniques, and bracing. Dr. Saju Joseph offered clear insights into interpreting the parameters and their application in training sessions and rehabilitation. He shared his extensive experience, particularly regarding hamstring muscle injuries, prevention, and rehabilitation, providing participants with new enlightenment in this area.

DAY - 2: FORCEDECKS

On the second day of the workshop, before the commencement of the sessions, our Master of Ceremonies introduced one of the esteemed guest speakers, Mr. Vijay Dhamodharn. The introduction highlighted Mr. Dhamodharn's extensive expertise and significant contributions to his field, setting an anticipatory tone for his forthcoming session. Following the introduction, a felicitation ceremony took place, wherein Mr. Dhamodharn was honored with a token of appreciation, including a bouquet and a commemorative memento. This gesture of respect and gratitude underscored the value of his participation in the workshop, and the audience warmly acknowledged his presence with a round of applause.



Session - 1

Topic - Equipment and introduction and sensor mechanism.

Time - 09.30 am to 10.30 am

Mode - Theory

Presenter - Mr. Vijay Dhamodhran and Mr. Manikandan.K

Venue - Aryabhatta seminar hall

In the first session, Mr. Manikandan and Mr. Vijay Dhamodharan shared their extensive knowledge about force decks. They covered a range of topics, including an introduction to force decks, their components, sensors, and mechanisms. The session delved deeply into how force decks operate and the parameters used to interpret the results. This comprehensive exploration provided participants with a new level of enlightenment, enhancing their understanding of force decks and their practical applications.

Session – 2

Topic - Equipment Implementation : FORCEDECKS

Time - 10.30 am to 11.30 am

Mode - Theory

Presenter - Mr. Vijay Dhamodhram

Venue - Aryabhata seminar hall



Following the knowledge imparted in the first session, the next session was led by Mr. Vijay Dhamodharan. He explored the highlights of the Day 2 equipment, FORCEDECKS, providing clear insights into the introduction and implementation of the equipment. Mr. Dhamodharan detailed the assessment parameters and explained how FORCEDECKS operate, including how the parameters are derived as results and the role of sensors. In the initial session, both Mr. Manikandan and Mr. Dhamodharan had explained the hardware and software setup of the equipment theoretically, offering new enlightenment to our participants. This session was particularly impactful as it deepened the participants' understanding and enhanced their ability to utilize FORCEDECKS effectively.

Hi-tea Break - 11.30 am to 11.45 am

Session - 3

Topic - Assessment parameters of equipment & interpretation.

Time - 11.45am to 01.15 am

Mode - Theory

Presenter - Dr. Saju Joseph

Venue - Aryabhatta seminar hall



Following the insights shared in Mr. Vijay Dhamodharan's session, the next session was led by Dr. Saju Joseph. He explored the highlights of the Day 2 equipment, FORCEDECKS, detailing the assessment parameters and how to interpret these parameters in real-time situations. Dr. Joseph's insights were particularly impactful as they deepened the participants' understanding and enhanced their ability to utilize FORCEDECKS effectively. By focusing on data interpretation and practical application, the session empowered participants to make informed decisions based on the assessment parameters. This comprehensive approach enriched the overall learning experience, making it a valuable addition to the workshop.

Lunch break 01.15 pm to 02.15 pm

Session – 4

Topic - Squat jump in FORCEDECKS

Time - 02.15 pm to 03.15 pm

Mode - practical

Presenter - Dr. Saju Joseph & Mr. Manikandan

Venue - Fitness center



Following lunch, the workshop resumed with a focus on the day's highlights, featuring practical sessions and hands-on training. Dr. Saju Joseph and Mr. Manikandan led the sessions, beginning with the interpretation of assessment parameters. Mr. Manikandan delved into the FORCEDECKS test setup, demonstrating both hardware and software configurations, and walked participants through the procedures and equipment setups. He addressed potential errors that might arise and provided solutions for resolving them. Before this, Dr. Saju Joseph offered a comprehensive explanation and demonstration of squat jumps, discussing body position, control techniques, and bracing. He provided clear insights into interpreting the parameters and their application in training and rehabilitation sessions. Sharing his extensive expertise, particularly in squat jump techniques and assessment interpretation, Dr. Joseph offered participants new enlightenment in this area.

Session – 5

Topic - Counter-movement jump in FORCEDECKS

Time - 03.15 pm to 04.15 pm

Mode - Practical

Presenter - Mr. Vijay Dhamodhran & Mr. Manikandan

Venue - Fitness center



Following Dr. Saju Joseph and Mr. Manikandan's squat jump practical sessions, the next hands-on session was led by Mr. Vijay Dhamodharan. He began with the interpretation of assessment parameters, offering a comprehensive explanation and demonstration of counter-movement jumps. Mr. Dhamodharan discussed body position, control techniques, and various hand positions in counter-movement jumps, justifying the relevance of each test. He provided clear insights into interpreting the parameters and their application in training and rehabilitation sessions. After covering all aspects of the concepts, participants were invited to practice both types of jumps using the FORCEDECKS equipment. Each participant engaged in performing the jumps and handling the equipment, both hardware and software. This training session was the highlight of the workshop, providing invaluable practical experience.

Hi-tea Break - 04.15 pm to 04.30 pm



Session - 7

Topic - Question & Answer / Discussion

Time - 04.30 pm to 05.00 pm

Presenter - Dr. Saju Joseph & Mr. Vijay Dhamodharan

Venue - Fitness center

Upon the conclusion of all sessions for the day, the most riveting and engaging segment commenced, led by Dr. Saju Joseph and Mr. Vijay Dhamodharan. Titled "Discussion, Question and Answer," this session proved to be an unparalleled experience for all attendees. Dr. Joseph and Mr. Vijay Dhamodharan demonstrated exceptional technical prowess as they addressed delegates' inquiries, seamlessly integrating immediate practical demonstrations to elucidate their points. Their insights offered a fresh perspective, endowing participants with invaluable, enlightened understanding. Not merely enriching delegates' knowledge, this session underscored the paramount importance of practical application and its efficacy in the realms of strength and conditioning, as well as biomechanics.

Session – 8

Topic - Certificate distribution and vote of thanks

Time - 05.00 pm to 05.30 pm



As the workshop drew to a close, the atmosphere was filled with gratitude and appreciation for the enriching experiences shared over the course of the event. The culmination was marked by the distribution of certificates, a tangible acknowledgment of the dedication and commitment exhibited by all participants. Each certificate symbolized not just the completion of the workshop but also the acquisition of invaluable knowledge and skills that would undoubtedly contribute to professional growth and development. It is your collective energy and enthusiasm that have truly made this workshop a resounding success.



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