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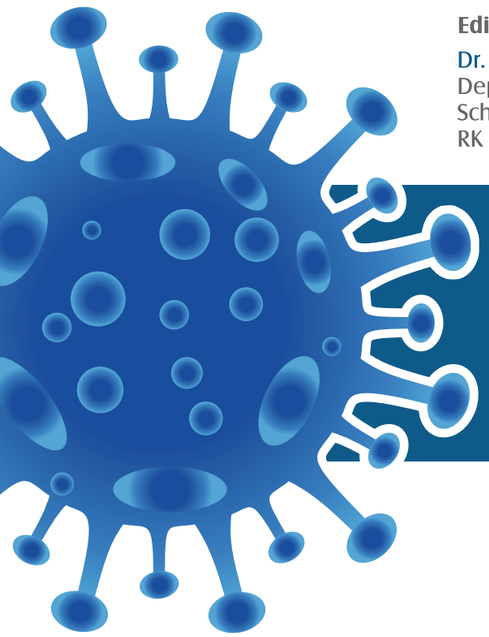
PHYSIO FORUM

ANNUALLY PUBLISHED PHYSIOTHERAPY NEWSLETTER

SCHOOL OF PHYSIOTHERAPY
RKUNIVERSITY



Physiotherapy is key to your recovery from **COVID-19**

RKUNIVERSITY

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RK.UNIVERSITY

NATIONAL INSTITUTIONAL RANKING FRAMEWORK

RKU in TOP 200

Universities of India in **NIRF 2022**

We are proud to share that RK University is the **only University in Saurashtra region** to be in the Top 200 Universities in India as per **NIRF Ranking 2022** by **Ministry of Education, Government of India.**

Photo & Video Contest on **International Yoga Day**

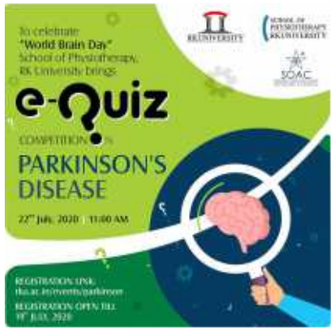
Digital Poster Presentation on **World Obesity Day**

International Women's Day Celebration

Organ Donation Day Celebration

1st October is celebrated worldwide as International Day of Elderly. On this day, focusing on focal theme of 2019 - **"Journey towards age equality"** School of Physiotherapy, RK University had arranged various Fun & Learn Activities for Happiness of Elderly along with making them physically & mentally more strong by various exercises, This program was arranged at Pipaliya Bhavan, Sadbhavna Aashram, Rajkot. More than 150 elders took the benefit from this program. The event was coordinated by **Dr. Komal Doshi & Dr. Mansi Sanghavi.**

World Brain Day Celebration



Parkinson's Disease Support Group (PDSG) functioning under School of hysiotherapy, RK University celebrated World Brain Day on 22nd July, 2020 and Organized e-Quiz Competition on the focal theme of the year 2020 "Move Together to End Parkinson's Disease" that affects more than 7 million people of all ages worldwide.Total 319 Students Participated in this e-Quiz competition,winners and participants had been awarded with certificates.

Book Fair

World Health Day 2021

In context to the focal theme of 2021 – "Building a fairer, healthier world for everyone", we had organized an online zoom session on "Workplace Wellness & Ergonomics" by Dr. Samruddhi Hirapara Main aim of the Celebration of World Health Day is to spread awareness about quality living and the importance of worksite wellness and how to maintain a healthy posture while working on the desktop.

Expert Talk on COVID-19

PG scholars and Alumni of school of physiotherapy (SPT), R.K University (RKU)have shared their "REAL TIME" Experience in COVID-19 on ZOOM Meet and Facebook Live on school of physiotherapy, R.K university page on 21/04/2021under the mentorship of Dr.Priyanshu Rathod and Dr.Mansi Sanghvi.Dr. Drashak Akoliya (founder of Shree physiotherapy and fitness clinic –Surat),Dr.Mayank Raval (PG scholar-R.K University), Dr.Rutva Trivedi (Consulting physiotherapist, Sal hospital –Ahmedabad), Dr. Hussaina Bharmal (consulting physiotherapist, Ezzi Shifakhana - Rajkot), Dr. Harshad Morasiya (PT care coordinator, Star Synergy Hospital- Rajkot) and Dr.Mansi Pandya (consulting Physiotherapist, Wockhardt hospital, - Rajkot) were invited as expert panel on talk show.

Community visit to PHC Gadhaka

On 12th February 2021, Students of 2nd semester MPT visited Primary Health Care (PHC) Center, Gadhaka to learn about functions of rural health mission (RHM) for health prevention and promotion. PG Scholars also have the opportunity to do home to home visits for health service and survey for Basic Health Checkup in Gadhaka Village under the guidance of Dr. Chirag Solanki students had an opportunity to experience and practice how to communicate with others and take basic Health checkup details as besides the need for Health Promotion and Prevention, Professional Communication and Behaviour of Physiotherapists remain the essential fragment. The medical officers also enlighten them about the Rural Health Mission.

Guru Purnima Celebration

School of Physiotherapy in collaboration with Student organization Advisory Council (SOAC) has celebrated Guru Purnima on 24th July 2021 with the motto of relationship between the students and guru's, role and importance of guru's in students. Students also performed the DRAMA on the theme of "NOW VS THEN EDUCATION".

World Heart Day Celebration

The World Heart Federation declared 29th September as a "WORLD HEART DAY". In support of this, The School of Physiotherapy, R.K. University organized Various events which were coordinated by Dr. Nikhita Dodiya.

Event 1: Health checkup camp at School of Physiotherapy in Collaboration with Gokul Multispeciality Hospital.Total 40 employees take advantage of this camp,Blood pressure, Pulse rate, Respiratory rate, ElectroCardiograph, Random Blood Sugar test, Pulmonary Function test was measured and recorded.

Event 2: Field work for students in contest with Health checkup by Students at Tramba and Gadhka Village.In this health checkup villagers' Heart rate, Blood pressure, Respiratory rate was assessed after that to test their cardiac fitness "Step up test" was performed.

Event 3: Expert talk by Dr. Denish Rojivadia DNB Cardiologist

Student Symposium

School of Physiotherapy Organized a Student Symposium to provide a forum for PG Scholars of School of Physiotherapy to present Evidence based seminars on the topic related to current scenario in Physiotherapy to the school community.

We had organized an online 2 days zoom session on Evidence based seminars. All PG Scholars From 1st SEM MPT & 3rd SEM MPT applied for the presentation. Out of 46 Topics, the best 20 presentations were selected for presentation.Total 386 Bachelor of Physiotherapy Students attended this Symposium.Presenters were awarded with the Letter of appreciation and letter of Merit.

Doctor's Day Celebration

The School of Physiotherapy celebrates National Doctor's Day on 1st July in memory of Dr Bidhan Chandra Roy, who had his birth and death anniversary on the same day. We had organized a Free Camp for Diabetic Patients from 9:00 am to 11:00 am. Total 37 Patients with with Diabetic participated in the camp apart from teaching some the exercises guidance had been given regarding foot care to all the patients

Pulmonary Function Test

Hands on Workshop on “Pulmonary Function Test – Spirometry” was conducted by School of physiotherapy, RK university as Batch 1 on 24th & 25th September 2021 & Batch 2 on 19th & 20th March 2022. Total 92 Students from Various Colleges across Gujarat participated in the workshop having credit value 10.

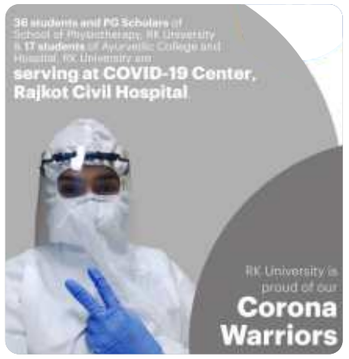
Workshop was conducted by Dr. Nidhi Ved, Under the Guidance of Dr. Priyanshu Rathod & Dr. Amit Sharma. All the Participants thoroughly enjoyed the new learning experience and Appreciated efforts taken by RKU management for conducting such Professional Development Workshop.

Disability Day Celebration

Celebration of International Day of People with Disability – 3rd December 2021 by Department of Social Justice and Empowerment, Government of Gujarat and School of Physiotherapy, RK University at Homes for Mentally Challenged, Near Crystal Mall, Kalawad Road, Rajkot.

Potential children were screened under “Functional Ability Checkup Camp” by PG residents under observation of Dr.Chirag Solanki. Apart from that the poster presentation competition was conducted among the 8 semester students.

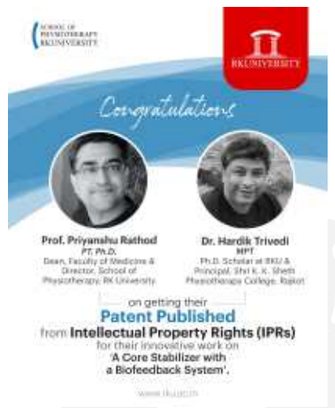
Corona Warrior



The visionary initiation by GOG for to be prepared against 3rd wave of Covid 19, training session was organized for Students and Faculty of School of Physiotherapy, RK University on 21st July 2021 from 09:00 am to 12:30 pm.

First batch of 216 students including 193 UG, 23 PG students as well as 20 faculties got trained during the session. second batch (200 students) will have session on 14th August as they had exams.

Patent Published



World Physiotherapy Day
2021 Celebration





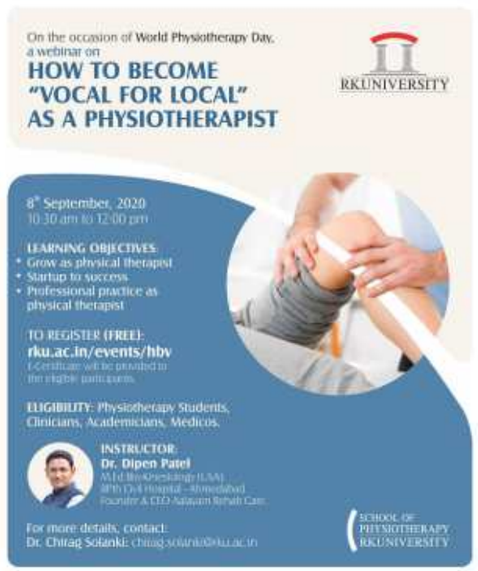

The School of Physiotherapy celebrates World Physiotherapy Day on 8th September every year with lots of enthusiasm to spread awareness about health and wellness among people. This Year the institute has organized a week long Celebration with scientific events, sports & cultural Festival. The special public event "walkathon" was organized on 8th sept to spread awareness on Long Covid and Rehabilitation. **Dr. R. S. Trivedi, Medical Supritendent PDU Medical College, Rajkot has inaugurated the Walkathon.** More than 250 Students & Faculties members participated in the walkathon.

Winners of Scientific Events, Sports and Cultural Festival

PG Paper Presentation | **Dr. Preeti Dara** - 3rd Sem MPT
UG Paper Presentation | **Ms. Theera Vithalani** - 7th Sem BPT
Poster Presentation | **Dr. Tanvi Fuletra** - 3rd Sem MPT
Scientific Presentation | **Dr. Foram Bhoot** - 3rd Sem MPT
Badminton | **Mr. Amone Siame** & **Ms. Margi Patel** - 2nd Sem BPT
Table Tennis | **Mr. Dhaval Solanki** - 2nd Sem BPT
Chess | **Dr. Yashpal Gohil** - 3rd Sem MPT

Cricket | **Mr. Khush Patel** & **Team** - 7th Sem BPT
Mr. Daksh Vyas - 4th Sem BPT | Mr. Bhautik Khandival - 8th Sem BPT
Mr. Tirth Patel - 7th Sem BPT | Mr. Kishan Parmar - 4th Sem BPT
Mr. Bhagirath Pokar - 2nd Sem BPT | Mr. Dhaval Solanki - 2nd Sem BPT
Dr. Yashpal Gohel - 3rd Sem MPT | Mr. Gauraj Domadiya - 2nd Sem BPT
Mr. Maunik Sathiya - 1st Sem MPT | Mr. Gopal Parmar - 2nd Sem MRIT
Dr. Dhruvan Sharma - 3rd Sem MPT

World Physiotherapy Day
2020 Celebration




આજકાલ

આજે આંતરરાષ્ટ્રીય ફિઝિયોથેરાપી દિવસ

કોરોના બાદ થાક લાગવાની સમસ્યાઓ માટે ફિઝિયોથેરાપી કરાય છે

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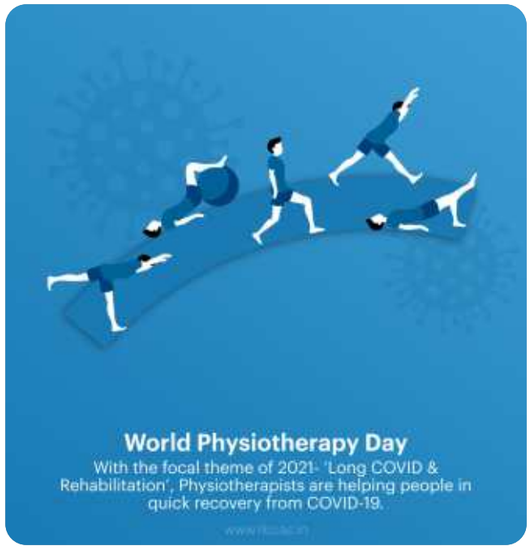
The School of Physiotherapy celebrates World Physiotherapy Day on 8th September every year to spread awareness about health and wellness among people.

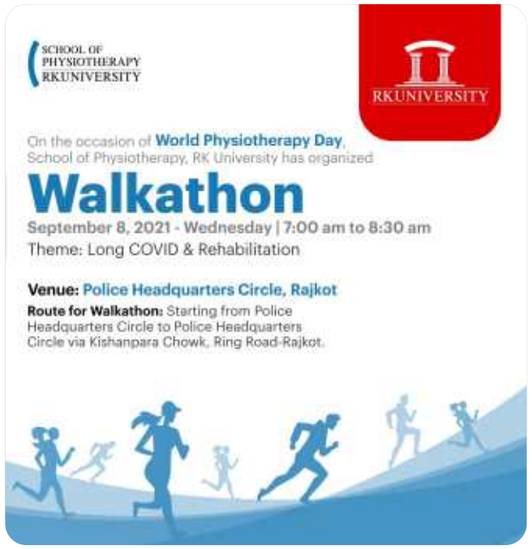
School of Physiotherapy, RK University was Organized various activities such as :-

Event I
Facebook live session with Dr. Dipen Patel, Founder, and CEO of Aalayam Rehab Care he spoke about keys of successful Physiotherapy practice, examples of best PT practice, vocal for local startups, and entrepreneurship in the field of physiotherapy and rehabilitation remain the focus areas in his talk

Event II
Facebook live session of Panel Discussion by Rajkot Physiotherapy Association (RPA) Post Covid 19 Rehabilitation, Physiotherapy practice in pandemic, Health and wellness remain the focus areas of panel discussion.
More than 5000 people have participated in both the events.

World Physiotherapy Day
2021 Celebration





Parkinson Disease Support Group (PDSG) Meet

Rajkot Knee Club (RKC) Meet

Alumni

Dr. Mahesh Dabhi
Consultant physiotherapist (HOD)
7 plus child physiotherapy clinic, Morbi
Batch: 2012-2016

Dr.Namrata Mashrani
Senior Team Leader, (services- Fitness)
Healthifyme Application
Healthifyme Well ness Private Limited,
Bengaluru, Karnataka
Batch: 2014-2015

ALUMNI

Dr. Pooja Popat
Physiotherapy Resident
Physiomed, Mississauga, Ontario
Batch: 2013-17

Dr Rutu Balara
Chief Physiotherapist
Community Health Center, Shapar
District: Rajkot
Batch: 2014-16

Faculty Galore 2020

GALORE 2020

A Melange of Talent

Faculty Achievement

Dr. Nidhi Ved

Assistant Professor School of Physiotherapy

Secured 1st position in Flagship event at the Tech. invent 2021 organized by Chandigarh University. Appreciated as pitch presentation at the finale event of Awesha held at international automobile center of excellence.

Dr. Shweta Rakholiya

Assistant Professor School of Physiotherapy

Awarded as excellence in Reviewing in Journal of Pharmaceutical Research International.

Dr. Parthkumar Devmurari

Assistant Professor School of Physiotherapy

Member of Global Association of Physiotherapy and has been nominated as the Vice President of Global Association of Physiotherapy,
Member of Environmental Protection Act.

Student Achievement

Shrutika Jadhav and Nidhi Sajeev
Gold in the 5th National Youth championship in Badminton Doubles Organized by NYSAEF

Dency Vaishnani, Heer Patel and Chelsi Makadia
Winners in Treasure hunt competition, Bizvista.

Monil Patel and Mehul Dabhi
Winner position
Biztainment Quiz Competition, Bizvista.

Hirva Dave
Runner Up in Public Speaking, BizVista 2022

Nihar Joshi
worked as Sports Physiotherapist in National Badminton championship, Goa and Saurastra - Kutch Badminton Championship by Delight Feather Academy.

Maulik Patel
Well dress competition in SOPT, RKU

SSIP Grant

1	**Dr. Shweta Rakholia**	₹ 40,500/-	Designing and testing of RK baltech-a balance sensing device
2	**Dr. Hardik Trivedi**	₹ 28,100/-	A designing and validation of low back exerciser for core muscles
3	**Dr. Vidhi Talati**	₹ 46,300/-	Validation and testing of RK respotech-respiration enhancing device
4	**Dr. Mugdha Oberoi**	₹ 55,000/-	Mobile health (mhealth) for physical well-being and functioning in office professionals with neck pain.
5	**Dr. Aarsi Shah**	₹ 36,000/-	Learning and educational activity based game kit for preschool rural children in Gujarat
6	**Dr. Nidhi Ved**	₹ 32,570/-	To develop a prototype of biofeedback integrated thoracic expansion measuring device-an exploratory study
7	**Dr. Tanvi Fuletra**	₹ 21,000/-	Developing a prototype device to measure nail bed angle-an exploratory multiphasic study
8	**Dr. Foram Bhut**	₹ 16,300/-	Designing & testing of innovative biofeedback device for the training of trunk movement
9	**Mr. Divyam Thakkar**	₹ 55,608/-	RK heart-tech device to monitor target heart rate during exercises
10	**Ms. Snehal Makwana**	₹ 47,700/-	Developing a modified mobilizer gag exerciser device to measures and monitor mouth opening in tobacco chewers among Rajkot region: interventional study

Community Camp List

NAME OF STUDENT AND GUIDE	TOPIC
Jhanvi Mandli, Arjun Muchhadiya, Piyush Murdhani, Bhavesh Unagar, Radhika Vadher, Mital Vaghela **Dr. Nidhi Ved**	Community Camp For Evaluating Cardiovascular Fitness among Sweepers & Giving Physiotherapy Advise for the Same.
Priya Gadara, Isha Kalyani, Apsa Khant, Disha Khatri, Rutuja Kukadiya, Himanshi Rangani **Dr. Amit Sharma**	Bladder Issue and importence of pelvic floor exercises muscle among Female
Janki Bharai, Jesika Chhabhadiya, Priya Kachhadiya, Megha Kanabar, Khyati Kanzariya, Shweta Pambhar **Ankita Chauhan**	Physiotherapy Management Camp for Menopausal related Disorders in Females
Kripali Parmar, Axita Tilala, Devanshi Timbadiya, Jinal Vaishnav, Krupanshi Vanpariya, Harshangi Vyas **Dr Swati Dhrangu**	Awarness and benefits of yogasana on premenstrual syndrome in young adults.
Sneha Acharya, Bhakti Jethwa, Charmi Joshi, Chintan Joshi, Hardi Joshi, Yash Kogje **Dr Manasi Sangavi**	Fall prevention and management in elderly people
Yesha Lakhani, Urvi Parsania, Mansi Sakhiya, Vaidik Sudani, Shet Vadhadiya, Khyati Kansagara **Dr. Komal Doshi**	Evaluation of Musculoskeletal Disorders and Hand Grip Strength in Packaging Workers at Ribda, Janki Interiors
Zeel Kakkad, Kinjal Kananim Madhav Pandya, Hiral Parmar, Payal Tikareeya, Rahul Vadhel **Prof. Priyanshu Rathod**	Physiotherapy Camp to Assess and Treat the Compromised Lung Function and Physical Deconditioning among People with Post Covid 19
Kajal Baldaniya, Roshni Hajipara, Madhavi Hansaliya, Jyotsana Khimsuriya, Nidhi Pandya **Dr. Shweta Rakholia**	Effect of yoga in Improving Flexibility For badminton players
Vimal Chavda, Vasudev Desai, Jayesh Jadav, Nikita Kacchtiya, Dhvani Prajapati, Nisha Ribadiya **Dr. Arshi shah & Dr. Harsh B**	Post-Surgical Physiotherapy Camp to Assess and Rehabilitate the Buccal Mucosal Cancer Patients.
Sachin Gadhavi, Kinjal Kanjiya, Bhautik Khandival, Margi Khunt, Riddhi Pujara, Riya Trada **Dr. Amit Sharma**	Physiotherapy Strategies for Prevention and Management of Musculoskeletal Pain among workers of Pharma Industry
Akash Dobariya, Farhin Lanja, Sonali Oganja, Darshita Patel, Namrata Sorathiya **Dr. Urvi Pithwa**	Physiotherapy camp for Assessment and Management of knee and back pain in 40+ age women
Hetvi Chitroda, Hetvi Jethloja, Fenisha Parmar, Radhika Raichura, Janvi Rana, Priyanka Unadkat **Dr. Chirag Solanki**	Stretching and Core Strengthning awareness camp for primary Dysmenorrhea
Jaimin Akbari, Pratyancha Maradiya, Shivani Savaliya, Shabina Unadpotra, Jay Vaja, Dhruvraj Vala **Dr. Kajal Pokar**	Physiotherapy Management Camp for Balance and Coordination in Geriatric Population
Shraddha Gadhvi, Kruti Gandhi, Nasrin Hingroja, Nimisha Jhaveri, Radhika Rupareliya, Yukta Sankhavara **Dr. Kajal Pokar**	Prevention and Physiotherapy Management Camp for Text Neck Syndrome (Neck Pain) in College going Students
Dimple Aghara, Shivangi Dadhaniya, Nidhi Devani, Krupali Kagathara, Harshukh Mahavadiya, Kajal Solanki **Dr. Namrata Sojitra**	Health Check up camp for musculoskeletal pain in ceramic workers
Ripal Bhuva, Bansi Busa, Khshbu Joshi, Krupa Joshi, Shyam Khimani, Gargi Patel **Dr. Nikhita Dodiya**	Physiotherapy Camp For Fall Risk Assessment and Intervention In geriatric Population

Community Camp Picture

Community Camp for Tobacco Chewers

Community Camp by 8th Semester students for Geriatric population at Sadbhavna old age home.

Physiotherapy Camp for High School Students to Assess Posture

Geriatric camp to improve balance and coordination

Industrial camp for the Musculoskeletal Disorder Assessment in Laborers

Student Corner

ROBOT ASSISTED GAIT TRAINING [RAGT]

Physiotherapeutic robots are used as mechanical devices for rehabilitation and locomotor training. It is difficult to facilitate repetitive and physiological gait patterns by physiotherapists' physical assistance hence RAGT is a leading edge technique introduced in clinical practice.

RAGT is an exoskeletal type robot (Lokomat®) with a treadmill base. It allows the patient to experience physiological gait patterns repetitively and safely with body weight supported by a harness. An end-effector type robot has also been developed which unlike the exoskeletal-type robot, that links the ankle, knee, and hip joints to the robot, the end-effector robot attaches only the feet to the footplate. Therefore, it allows free movement of the knee and hip joints and provides "destabilization training." This training can reinforce the neuronal circuit and contribute to postural control and sensory integration. GAIT training is based on a double crank and rocker gear system. It consists of 2 foot plates positioned on to bars, 2 rockers, and 2 cranks, which provide the propulsion. The foot plates symmetrically generate the stance and swing phase.

RAGT in patients with incomplete Spinal Cord Injury revealed improvements in mobility-related outcomes (gait endurance and Walking Index for Spinal Cord Injury [WISCI]-II) and lower extremity motor strength compared to conventional physiotherapy.

It is observed that RAGT in Cerebral palsy allows 1000 steps in a session while manually one can only reach upto 300-400 steps and with treadmill one can reach upto 300-400 steps.

RAGT may be effective in stroke patients as it causes joint loading and stimulates joint proprioceptors of lower limb hence improving balance and coordination in gait. The end-effector RAGT may act as task-specific, repetitive, and desensitization training to promote proprioception, balance ability, and walking ability. In addition, postural control ability and proprioception were positively correlated with gait ability.

- Hirva Dave (3rd Sem, BPT)

PHYSIO AESTHETICS - TECAR THERAPY

TECAR means transfer of energy capacitive and resistive. Nowadays Localized adipose tissue on abdominal region, thighs, buttocks and stretch marks is a common problem in females. Acne, wrinkles, and early aging of skin are the leading aesthetic alteration complaints. It is quite challenging to cure these conditions without any medication, side effects, and any type of surgery or laser treatment. TECAR Therapy has been reported as a natural, non-invasive, inexpensive technique to get rid of all these conditions.

TECAR therapy works on electromagnetic wave therapy. It involves two types of electrodes: Capacitive and resistive. The Capacitive electrode releases more energy in layers beneath, while the resistive one releases more energy in the high-low impedance interface. It stimulates the tissue itself by activating ions thus producing energy and heat from the inside. In TECAR recommended dose was as follows:

frequency - 650kHz
Temperature - 40 °c
Energy - 10-40 J/cm²

The study concluded that TECAR therapy resulted in a reduction of the fat located in the abdominal region. TECAR differs from other forms of thermography (ultrasound, laser, IRR) in that it does not add heat to the tissue from outside but STIMULATES the tissue itself by activating ions thus, producing energy and heat from inside. TECAR therapy gives warm, pleasant feeling and has no side effects. Results are visible soon after the first treatment. The skin is more elastic and has a healthy natural glow.

Benefits of TACER therapy-

TECAR Promotes collagen and elastin production and reduces the appearance of wrinkles. Rejuvenated appearance of skin. Tecar therapy is an extraordinary physical technique that assists the intervention of the physiotherapist. It is definitely the most used by physiotherapists in Italy specially for the aesthetic treatments and is one of the most prescribed by orthopedists, physiotherapists and sports doctors.

- Shikha panara (3rd Sem, BPT)

Faculty Corner

Role of Physiotherapist in Intra Operative Neuro Monitoring

The role of intra operative Neuro monitoring (IONM) in spinal surgery is to evaluate the integrity of the nervous system continuously while patients undergo procedures that have the potential to cause injury to the nervous system particularly the spinal cord, nerve roots and spinal nerves. The task of physiotherapist is to: (1) Monitor electrophysiological IONM techniques and inform the surgeon about it (2) Identify neural irritation or injury at a time when the surgeon can take steps to reduce or reverse it. So with the help of different electrophysiological IONM techniques there is timely evaluation and feedback to the surgeon at a point where interventions can be taken to prevent irreversible neural damage.

Electrophysiological IONM techniques

1) **Somato sensory evoked potential monitoring** : Used to assess the integrity of sensory pathways that traverse the spinal cord in areas that are at risk for injury. SSEPs can be recorded repeatedly and reproducibly and the spinal pathways they traverse are sensitive indicators of the integrity of the cord. This recording is done by stimulation of peripheral nerves while recording from multiple sites like over spine and scalp.

2) **Motor evoked potential monitoring** : Stimulation of descending motor pathways intra operatively through MEP provides a supplementary monitoring capability that can serve as a check on the results of SSEP monitoring. This recording is done by different methods but most commonly used stimulation technique is trans cranial electrical stimulation in which stimulation is from cortical motor area of scalp & recordings are made from subcutaneous or intramuscular needle electrodes placed in multiple muscles in the arms and legs.

3) **Free-run EMG monitoring** : Free-run EMG activity can be monitored continuously when peripheral nerves or roots are at risk for potential injury. When nerves are irritated by, for example, stretch or compression, they discharge spontaneously, producing trains of motor unit potential discharges in the muscles they innervate.

4) **Triggered EMG (Pedicle Screw Stimulation)** : It is a method that can be used to determine whether screws used in spinal surgery have breached the medial or inferior pedicle wall and thus pose risk to the existing nerve root at that level. When a pedicle screw is accurately placed, the surrounding bone acts as an insulator to electrical conduction and higher amount of electrical current is thus required to stimulate surrounding nerve root. Monopolar electode is used to directly stimulate the top of pedicle screw at increasing current intensities & needle electrodes in the appropriate muscle groups will measure CMAP time locked to the stimulation.

- Dr. Mansi Shah (Intra Operative Neuro Monitoring)

Home Health Care

Group photos– BPT/MPT Batch

BPT BATCH 2018-22

BPT BATCH 2019-23

BPT BATCH 2020-24

BPT BATCH 2021-25

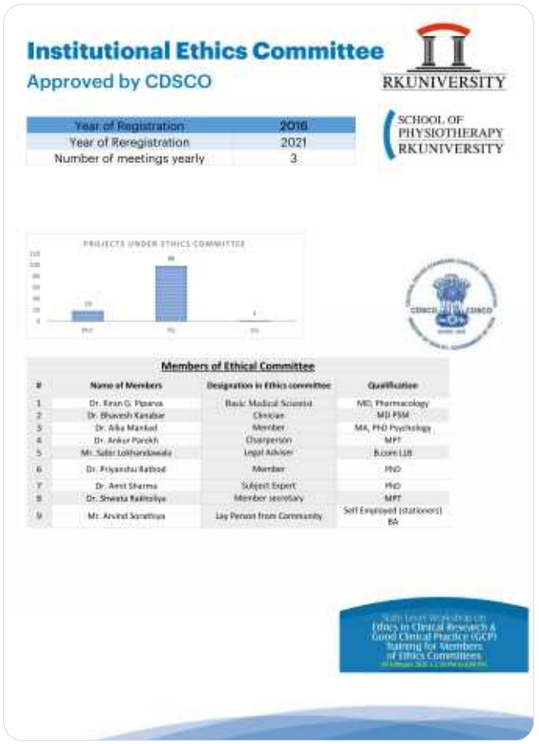
Group photos– BPT/MPT Batch

MPT BATCH 2021-22

MPT BATCH 2022-23

SPT FACULTY 2022

Ethical Committee @SPT



Physiofest- 2022

Physiofest is an Annual National Physiotherapy Summit which aims at empowering students enhancing the excellence in the field of Physiotherapy. It also serves as a platform for the Students and Therapists to learn and improve their skills in the field. Physiofest brings out the innovation and research in Students and Therapists. Shri Shamjibhai Harjibhai Talaviya Charitable (SHTC) Trust managed School of Physiotherapy, RK University (RKU) has organized 12th National level Physiotherapy summit to Provide a platform to the students to showcase their Innovative and Entrepreneurial skills. The School of Physiotherapy constantly strives to provide the quality input to students by providing them various platforms for their overall development. Taking this effort further, Physiofest is organized by School of Physiotherapy, RK University every year since 2009. Taking this tradition forward we organized Physiofest 2022 on 22nd January 2022 with a focus on 'Innovation and Entrepreneurship' in the field of Physiotherapy on a virtual Mode The event was inaugurated in presence of Executive Vice President Mr. Denish Patel. More than 250 participants from more than 20 colleges across the nation, had represented in this summit virtually. Delegates had participated in various academic activities like Platform paper presentation, Poster presentation Dr. Neeta Vyas a very senior academician and clinician (Former Principal SBB College of Physiotherapy, Ahmadabad) was the key note Speaker for the event. Expert session was also delivered by Mr. Padmin Buch on Intellectual Property Right (IPR), Dr. Nitesh Bansal on Entrepreneurship and Physiotherapy and Dr. Sagar Naik narrate his experience in establishing of Asian Physiotherapy and Research Institute.

This year we had received around 50 Theme specific Paper out of Which we have shortlisted 32 Paper to be presented in the Physiofest 2022 and in addition to that we had also received 30 theme specific Digital poster out of which we have shortlisted 18 Poster for presentation. Many senior academician Principal and Directors of India and Nepal chair the session of Paper and Digital Poster Presentation. Certificate was awarded for each delegate and the selected Paper and poster will be featured in ISBN approved annually published Physiotherapy newsletter Physioforum after fulfilling the publishable criteria.

Awareness of Lower cross syndrome in relation to back pain among the physiotherapist – A survey

ABSTRACT

Background: Low back pain is frequently associated with imbalances in hip and trunk muscles length and strength. It occurs as a result of prolonged poor sitting or standing postures. Lower cross syndrome is characterized by tightness of iliopsoas, rectus femoris and erector spinae along with weakness of gluteal and abdominal muscle.These changes in muscular length and strength create muscle imbalance, which leads to movement dysfunction.Exercises help to restore length of tight muscles and strengthening of weak muscles.But it has been observed that physiotherapist generally don't treat lower cross syndrome (as per type) in low back pain patients. This may have a negative impact on recovery among back pain patients.

Method: Online survey was conducted about lower cross syndrome (and its type) and low back pain among the physiotherapists through google form.

Results: 87.50% agreed that LCS is one of the reasons for back pain. 27.30% have no idea about types of LCS. 38.30% physiotherapists do not assess and treat LCS as per its types despite having knowledge (72.70%,n=93) about LCS and its type, 23.1% physiotherapists do not treat LCS as per the type.

Conclusion: Despite having an idea about the type of LCS only 61.70% are assessing & treating the patients as per the type whereas, 38.30% are not assessing or treating LCS as per its type which may cause delay in recovery of the patients.

Keywords: Low back pain, Lower cross syndrome

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The known effect of alpha brain wave therapy as treatment regimen in various conditions – A systematic literature review of RCTs and clinical trials

ABSTRACT

Objective: The primary objective of this systematic literature review was to increase knowledge about the known effect of alpha brain wave therapy as treatment regimen in various conditions.

Methods: To know present literature about known effect of alpha wave enhancement in various conditions, PubMed, Cochrane library and Willey online library were searched. Amongst 344 results, 11 studies were included as per criteria.

Results: Eleven trials with a total of 469 participants met the inclusion criteria. Of the included trials, most of the studies show positive impact of alpha power on cognition in healthy individuals with specifically EEG –Neurobiofeedback training.

Conclusion: This systematic literature review of various RCTs and clinical trials suggested that fewer researches were carried out which shows beneficial effects of alpha wave enhancement as therapeutic approach in various conditions as well as in healthy individuals. Low to moderate evidences has been established in this area. Furthermore, all studies were performed with EEG neurobiofeedback which shows positive outcomes on cognition and physiological aspects mainly. This study added literature in the known effects of alpha wave therapy in various conditions.

Keywords: Alpha wave, cognition, alpha music therapy, brain waves

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Developing A Protocol of Using Body Weight Support Overground Training with Sensory Mats On Walking Ability in Subjects with Incomplete Paraplegia: A Case Series

ABSTRACT

Background: An Incomplete SCI means the spinal cord is still able to transmit some messages to and from the brain to the rest of the body. Many patients with incomplete spinal cord injury have potential to walk. Body-weight supported training is utilised in the rehabilitation of people who have had a total or incomplete SCI, but its usefulness is still debated.

Methods: A total 5 subjects with traumatic spinal cord injury having incomplete paraplegia with ASIA B and C were included in the study. The primary outcome measures were Walking Index for Spinal Cord Injury (WISCI II) and Asia Motor Score.Subjects were targeted for gait training using body weight support over ground training for 3 months, 4 sessions per week for 1 hour per day with different sensory stimulus. Along with gait training subjects were given traditional Physiotherapy according to their condition.

Results: It was found out that WISCI II scale score ranged from 5-12 at baseline and post 3 months it ranged 13-19. Asia motor score for lower limb ranged from 12-15 at baseline and post 3 months it ranged 20-24. Paired sample t test was used for comparing means between pre and post intervention outcomes. ($p<0.05$)

Conclusion: In conclusion, the subjects who were treated with body weight support over ground training had significant functional improvement. It is safe and effective to use over ground gait training with sensory stimulus in subjects with paraplegia in clinical setup as well.

Keywords: ISCI, BWS over Ground Training, WISCI II, Paraplegia

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Physical Fitness, Bio-motor skills & Quality of Life in Para-athletes: A systematic review

ABSTRACT

Introduction: Exercise and sports are more important for individuals with disabilities because of their limited physical activity. Physical fitness in most definitions includes the following components: body composition, cardiorespiratory capacity, muscle strength and endurance, balance and flexibility. These components are essential for independent living and for developing functional skills. In addition, there is commitment to well-being and especially with the social aspects of quality of life (QOL) of the people involved.

Aim: A systemic review of literature to study the test batteries used in assessing the Physical fitness, Bio-motor skill and Quality of life in para-athletes.

Methodology: Previously published studies on para-athletes were selected and critically reviewed for formation of a valid test battery for this population.

Conclusion: The systematic review of literature will help in designing a valid test battery for Para-athletes and also would be of benefit in future studies for generating baseline physical fitness data of these athletes.

Keywords: Para-athletes, Physical fitness, Quality of life, aerobic power, Bio-motor skill.

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Developing A Prototype: Biofeedback Integrated Thoracic Expansion Measuring Device – A Technical Note

ABSTRACT

Background: Thoracic expansion is defined as the difference in chest circumference between maximal exhalation and maximal inhalation. Thoracic Expansion Occurs due to Movements of the ribs at the Costovertebral and Costotransverse joints. The Anatomical orientation of ribs varies in upper and lower thoracic area, due to which thoracic Expansion occurs in upper rib due to pump handle movement whereas thoracic expansion occurs in lower rib due to bucket handle movement. Few researchers had developed chest expansion measuring device but reliability and validity of few device is still questionable with significant limitation while few devices like Optic Electronic Plethysmography, Respiratory Movement Measuring Device required huge set up with various sensors, camera and computer unit which is not easy to handle and not widely available. Along with it, availability of biofeedback is very limited in pulmonary rehabilitation.

Aim: To develop thoracic expansion measuring device and integrated visual biofeedback system with it.

Methodology: It is a Multiphasic Study, for the development of device various instruments like Sensors, Arduino, LCD, Li-ion Battery etc. are used. Once Device was made it was integrated with Visual Biofeedback regarding chest Expansion. Followed by Assessing Reliability and Validity of the Entire Unit.

Possible outcomes: Developing cost effective, portable, easy to use and easily available biofeedback integrated device to measure chest expansion and to improve it.

Keywords: Thoracic Expansion, Biofeedback, Digital Device, Prototype.

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Effect of plyometric training on balance, explosive power and agility in badminton players - a systematic review

ABSTRACT

Objective: The objective of this systematic literature review was to increase knowledge about the plyometric training on balance, power and agility in badminton players.

Methods: A systematic online search of the literatures in English language was undertaken for articles published from January 2012 to December 2021. National Library of Medicine (PubMed), Cochrane library, Google Scholar, and Oxford Press were searched with keyword "Plyometric training on balance, power and agility in Badminton Players". Amongst 321 results, 10 studies were included as per criteria. Methodological quality and risk of bias was estimated by using Pedro scale.

Result: Ten trials with a total of 462 players met the inclusion criteria. Most of the studies show positive impact of Plyometric Training improves overall agility, balance and power in badminton players and could become training design to improve skills.

Conclusion: This systematic literature review suggested that most of researches were carried out which shows beneficial effects of Plyometric Training. This study added literature in the effects of Plyometric training on balance, power and agility in Badminton Players.

Keywords: Badminton Players, Plyometric training, Physical Fitness

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Unique Method of Using Trampoline Based Training and Gaze Fixation On Balance and Coordination in Subject with Cerebellar Ataxia: A Case Report

ABSTRACT

Background: Cerebellar strokes are relatively uncommon and account for less than 10% of all strokes. Cerebellar ataxia is defined as "impaired coordination of voluntary muscle movement" and explained that it is primarily the result of cerebellar damage.

Method: This study was performed on 40-year-old male subject who was a known case of cerebellar stroke and due to which he had complaints of nystagmus, balance issues, gait instability, double vision and speech issues (staccato speech). He was given 2 months of intensive trampoline balance training, mat activities, gaze stabilization, different visual activities with eye patch.

Results: To know the improvement in his status he was assessed was pre and post values and difference was calculated to know the mean difference of the improvement in his condition. The pre-value of SARA was 35/40 and post 2 month it was 10/40. The POMA pre-value was 4/28 and post 2 month it was 21/28. Diplopia was assessed with the help of Hess chart. These values showed significant improvement in the condition of the subject.

Conclusion: In conclusion, there was significant improvement in balance and coordination of patient. Also, there was improvement in gaze stability. So, balance exercises on trampoline and gaze fixation exercise with the help of eye patch can be considered as effective in subject with cerebellar ataxia.

Keywords: Cerebellar Ataxia, SARA, trampoline, eye patch

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Development of jaw mobilizing gag exerciser device to measure and monitor mouth opening along with masseter muscle exercise: Prototype development.

ABSTRACT

Introduction: Prototyping is a key process in designing and building successful products. Therefore, we set out to develop this modified prototype to meet individual needs and requirements. This prototype doesn't really care about looks. Its main purpose is to test the initial functionality of the design. This mouth gag is a special device for opening the mouth without damaging the temporomandibular joint. It has a large curved blade that gently pulls on cheeks and lips. The blades also form a round hole for better visibility. The mouth of this gag has a ratchet system that can be adjusted with a lever. As a result. In addition, ergonomic finger loops prevent slippage and fatigue. To eliminate the complexity of traditional funnels, we set out to develop this modified prototype.

Methodology: The product prototype development process consists of three main steps. PHASE 1 - PHASE ALPHA develops prototype development only. PHASE 2 - PHASE BETA will be the first physical demonstration of prototype development. PHASE 3. The pilot phase began with reforming the first physical prototype development demonstration. Design Software: Adobe Acrobat Reader DC (32-bit)

Result: Results from a functional point of view of developing our prototype, the results are as follows. Round screw handle, soft material: wider spring covered with soft material at the ends of two flat teeth Cap: attach to the oval side of the handle with spring hooks on both sides of the teeth, numeric scale: for precise measurement.

Conclusion: We have completed the development of a prototype GAG mobilization trainer that measures mouth opening in combination with a mouth closing exercise at optimal length.

Keywords: Prototype Development, Mog Exerciser, TMJ, Masseter Muscle, Joint Stiffness.

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The Innovative Technologies for assessment of balance performance: A literature Review

ABSTRACT

Background: In this research article, literature or the articles already available based on electronic balance assessment were reviewed and included. These devices were used to assess postural stability while static as well as dynamic posture.

Aim: To review the innovative technology of the available electronic devices to assess balance performance.

Methodology: Web of Science, PLoS ONE and science direct, PubMed database and other additional resources were used to review the research studies available for the balance assessment technology. The literature search produced a total of 365 items using electronic database. After removal of duplicates, posters, abstracts, 68 studies were taken for the review.

Results: In this study balancing assessment electronic devices were identified and selected 7 tools to assess balance in neurological conditions.
Conclusions: Various electronic devices available developed for the evaluation of balance problems and accurate enough to assess the balance dysfunction which can be used as objective tools.

Keywords: Balance, electronic devices, Sensors, Neurological Conditions.

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An Innovative and Novel Way Of Using An Otago Exercise And Hopscotch Training On Balance and Coordination In Post Operated Type 2 Chiari Malformation Subject: A Case Report

ABSTRACT

Background: The Arnold Chiari malformation type 2 is a type in which both the cerebellum and brain stem tissue extend into the foramen magnum. It is a rare congenital malformation of the cerebellum; it results from the normal growth of nerve elements in a posterior fossa too small. It is always associated with myelomeningocele. The Otago Exercise Program (OEP) is the most widespread fall prevention program.

Method: The case was of a 15-year-old male who was a known case of craniovertebral junction anomaly which was leading to Arnold Chiari malformation type II. He presented here with complaints of difficulty maintaining posture, balance and had coordination difficulty and had undergone surgical treatment for the same and was referred for physiotherapy. He was given 3 months of program related to balance and coordination with the help of Otago and hopscotch training.

Outcome measure: SARA, POMA, PPT

Result: To know the improvement in the subject's status, the subject was assessed for the mean difference of pre and post-value scores so as to find a quantitative value of improvement in his condition after giving the intervention. Post-surgery pre-value of SARA was 35/40 and post 3 months it was 15/40. The POMA pre-value was 3/28 and post 3 months it was 22/28 and the pre-value of PPT was 0.370kg/cm2 and post 3 months it was 2.9kg/cm2.

Conclusion: In conclusion, Otago and Hopscotch training was effective in improving balance and coordination in the subject who was operated for ACM-II.

Keywords: ACM-II, Otago-exercise, Hopscotch, SARA

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Use of a novel technique "Keep your move in the tube (KYIMTT) ™" as sternal precautions amongst physiotherapists in Maharashtra: A Web based Survey(Phase I)

ABSTRACT

Background: Median sternotomy procedures are a common practice in cardiac surgery patients. Following which patients are advised to follow some precautions, to prevent complications. They cause a lot of limitations and delay the recovery period. Activity precautions after sternotomy are based on a theoretical rationale. Earlier studies, reviews have hypothesized that these precautions are overly restrictive. They lack practicality during ADL's. There are various approaches like SMART®, 'MODIFIED SP', (KYMITT®). There are numerous surveys done in Australia, Greece, and Canada.

Need of Study: This survey is a first attempt to not only identify uniformity in practices, but also to find out implementation of one such novel methods. This study is an attempt to find if novel approaches like "Keep your move in the tube" (KYMITT®) are implemented as sternal precautions amongst physiotherapists in Maharashtra.

Aim: To investigate current physiotherapy practices & implementation of Novel techniques (KYMITT®) with respected to sternal precautions during cardiac rehabilitation following median sternotomy in various hospitals all over Maharashtra.Objectives: Introduction of novel technique (Video); Conduct online survey; Statistical analysis of data.

Method: Introduced the novel technique cardiac physiotherapists in Maharashtra. Formulation of Google form. Obtain responses, analyse result.

Results & Conclusion: This study showed that significant variations exist in the sternal precautions. The implementation of novel technique was readily accepted.

Keywords: Sternal Precautions, CABG, Cardiac rehabilitation, Sternal pain

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Effect of Sequential Compression Biomechanical Device in Atherosclerosis: A Narrative study

ABSTRACT

Background: Atherosclerosis is a modern, long - term and continuous manner condition wherein plaque accumulates withinside the internal layer of blood vessel walls. This ends in hardening of the vessel wall and occasion typically a good sized abate withinside the float of blood to the intended tissues.3 Sequential Compression Biomechanical Device (SCBD) is an opportunity remedy for sufferers with CLI without a trace of reconstructable life systems.

Aims: To rescue the organs, amplify in popliteal artery float and toe pressure, lesion healing, quality- changed time without side effects of infection or poisonousness of treatment and cost adequacy.

Methodology: Subsequent to acquiring informed assent, patients were initiated on a treatment convention that endured 12 weeks or till they required removal.4 The SCBD tool became carried out to the symptomatic leg(s) whilst the affected person became sitting upright in a chair.

Result: The result shows the clinical improvement and amputation free limb survival salvage rate in the affected limb of the patients.

Discussion: Patrick S Moran et.al conveyed that when bypass surgery was meticulously practiced for CLI, 1976 major amputations/1 million were done in contrast to 3177/1 million when bypass surgery was performed as a last resort for limb Salvage.1 Although limb salvage will persist to be the paramount ambition for most patients referred for vascular surgery interventions, some patients with CLI are undoubtedly better served with amputation.2 Conclusion: SCBD is a low- cost, clinically efficient therapy and it provides amputation- free survival, rapid relief of relaxation pain, and enhanced rate of ulcer healing.

Keywords: Amputation, Atherosclerosis, Increased Circulation, Sequential Compression Biomechanical Device.

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