The Advanced Centre for Yoga Therapy, Education and Research (ACYTER), a collaborative venture between JIPMER, Puducherry and Morarji Desai National Institute of Yoga (MDNIY), New Delhi was established by a MOU between JIPMER and MDNIY on 7th June 2008. This advanced centre will focus on the role of yoga in the prevention and management of cardiovascular disorders and diabetes mellitus. The centre will also popularize the science of yoga amongst medical professionals and general public.

MDNIY will be providing financial assistance and necessary academic input related to yoga and take steps to initiate collaborative research projects on yoga and its applications related to cardiovascular diseases and diabetes mellitus. JIPMER will be offering its infrastructure and faculty for purposes of collaborative ventures with MDNIY in the field of yoga and its applications to cardiovascular diseases and diabetes mellitus.
**PRANAYAM: A VEDIC AND PHYSIOLOGICAL PERSPECTIVE**

**Dr. Madanmohan**  
Director- Professor & Head, Department of Physiology & Programme Director, ACYTER

Yog (and the English word yoke derived from it) means union and harmony. Vedic philosophy emphasizes oneness, unity and universality. Vedic concepts of i) one omnipresent God as the universal divine being (Ekam sadvipra bahudha vadanti. Rigved, 1: 164: 46; Ishavasyam idam sarvam. Yajurved, 40: 1), ii) world man (Vishwa manusho. Rigved, 8: 45: 42), iii) world as one family (Vasudhaiv kutumbakam) and iv) the ultimate goal of yog being the union of our individual soul with the one Universal Soul can be the basis of unity of humanity and the modern concept of global village. From the yogic and spiritual point of view, the Vedic concept of pran, the omnipresent and universal divine force is very important. Ken Upanishad (1: 2) describes the supreme God as “Pranasya pranah”, i.e. the very source of pran, the giver of life to pran. In our body, pran manifests as life energy or ki (as in reiki or qigong) and in Samskrit, living beings are called as prani. Pran improves the quality of vegetation and herbs and thereby the quality of our life (Atharva Ved, 11: 4: 6). This whole world vibrates with pran (Kath Upanishad, 6: 2). Our nerve currents, bio-rhythms and the very life are expressions of pran.

From the Vedic point of view, the goal of pranayam is conscious unification with the universal vital life force or pran. Breathing is the most tangible expression of pran and pranayam is the ingenious technique for recharging our batteries and enhancing vitality by drawing pran from the omnipresent and inexhaustible universal source of pran. Pranayam means control and expansion of pran. Since life, breathing and mind are closely interrelated and act on each other, pranayam has significant influence on our psychosomatic health. According to Patanjali (Yog Darshan, 2: 52-53), pranayam removes the covering of inner light and our mind gains the power of concentration. According to manusmriti (6: 71), pranayam purifies the senses and mind even as fire removes the impurities of metals. Thus, the breathing techniques of pranayam are psychosomatic techniques that purify, balance and energize the practioner.

From the physiological point of view, pranayam is of great significance. Deep and complete yog breathing (mahat yog pranayam) i) strengthens the diaphragm and intercostal muscles, ii) massages abdominal viscera, iii) stretches all parts of thorax and lungs and iv) improves venous return. Breathing meditatively with full concentration improves mind-body coordination. During slow, deep and rhythmic breathing, there is a conscious alteration of activity of medullary neurons and a definite pattern of proprioceptive inputs from thorax and abdomen. This may modulate the activity of central neuronal circuits. We have found that slow, rhythmic pranayam produces deep psychosomatic relaxation (Madanmohan et al. The Yoga Review, 1983, 3: 25-34). In another study, we have found that bellows type of pranayam produces immediate and significant reduction in auditory and visual reaction times indicating an improved sensorimotor performance and enhanced processing ability of the central nervous system (Bhavanani et al. Ind J Physiol Pharmacol, 2003, 47: 297-300). In a study on patients with premature ventricular complexes (PVC) and episodes of palpitations, we have found that pranayam produces an immediate relief of palpitations and PVC (Ravindra et al. International J Cardiology, 2006, 108: 124-125). It is clear that pranayama has significant spiritual, physiological and therapeutic potential.
STAFF RECRUITMENT COMPLETED

ACYTER has started functioning with full staff with effect from 1 June 2009 when following staff members joined: Dr Zeena Sanjay (Senior Research Fellow), Sri G Dayanidy (Yoga Instructor), Selvi L Vithiyalakshmi (Yoga Instructor) and Sri P Munisamy (General Duty Attendant). This completes the full ACYTER team along with Dr Ananda Balayogi Bhavanani (Programme Co-ordinator), Sri E Jayasettaseelon (Senior Research Fellow) and Sri S Mourthy (DEO-cum-clerk). Orientation programme was conducted for ACYTER staff by Dr. Madanmohan, Programme Director from 1 to 15 June 2009. Research methods as well as yoga teaching methods were finalized in this period with a special workshop on HRV methods conducted by Dr ES Prakash from Asian Institute of Medical Studies, Malaysia.

YOGA THERAPY OPD AT SUPER SPECIALTY BLOCK

Yoga therapy OPD started functioning from 15 June in Super Specialty block of JIPMER. During second half of June, 154 patients (89 new and 65 old cases) of various conditions attended consultation in the OPD with Dr Ananda Balayogi Bhavanani and Dr Zeena Sanjay. Patients who attended consultation were prescribed individualized and generalized yoga therapy for diabetes mellitus (53), hypertension (27), coronary artery disease (8), respiratory disorders (9), endocrine disorders (8), stress (6), urology (2), GI disorders (3), neurology (1), musculoskeletal disorders (10) and non specific complaints (1). Many patients had more than one health problem. Patients have reported benefits and expressed their thanks to ACYTER, JIPMER and MDNIY for this facility.

YOGA THERAPY SESSIONS

Yoga therapy sessions were started on 15 June and are being conducted on Mondays, Wednesdays and Fridays from 10:00 am – 11:00 am for patients of diabetes, 11:00 am – 12:00 noon for patients of cardiovascular diseases and 12:00 noon – 1:00 pm for patients of other disorders. The yoga instructors, G Dayanidy and L Vithiyalakshmi are conducting the sessions both individually and in groups as per directions of the therapists given in the OPD. Therapy schedule notes are being prepared for distribution to patients enabling them to practice more efficiently at home. Patients have reported satisfaction with the therapy sessions and are attending regularly. 77 patients of diabetes, 35 of hypertension and 70 of other conditions attended the sessions up to the end of June.

REGULAR YOGA CLASSES

Regular yoga classes for normal subjects were started on 15 June and are being conducted on Mondays, Wednesdays and Fridays between 6:30 – 7:30 am & 4:30 – 5:30 pm. 16 participants attended the classes regularly up to the end of June. Suryanamaskar, basic asanas, pranayamas and relaxation techniques are being taught in the general classes.
WEEKLY ACADEMIC PROGRAMMES

Weekly academic programmes are being conducted at ACYTER on every Saturday. Sri E Jayasettiaseelon, SRF, ACYTER presented a talk on “Yogic Diet” on 20th June and Dr Vivek Sharma, Assistant Professor, Department of Physiology presented a talk on “Yoga - It’s applications in Health and Disease” on 27th June. Residents and faculty members of Physiology were invited participants in the academic programmes that ended with a healthy group discussion. Dr Ananda Balayogi Bhavanani, and Sri G Dayanidy, also gave an informative lecture cum demonstration on “Important Asanas for Health” on 27th June following the talk by Dr Vivek Sharma.

SENIOR CITIZEN’S CLINIC

Senior Citizen’s Clinic is being conducted on every Tuesday from 11:00 am to 12:30 pm at ACYTER Yoga Hall and was attended by 41 patients up to end of June. Members of the Pondicherry Senior Citizens Welfare association headed by Sri SV Iyer participated enthusiastically in the programme. Mrs. Meena Ramanathan assisted in this programme as she has been associated with the senior citizens’ yoga programme at the Pondicherry University Community College. Basic yoga practices were taught to participants after consultation with the therapists.

REORIENTATION PROGRAMME FOR DOCTORS

Dr Vivek Sharma, assistant professor, Department of physiology attended the reorientation programme for doctors conducted by MDNIY at New Delhi in May 2009. He gave positive feedback on the content and conduct of the programme and presented a talk on his experiences at ACYTER. It is to be noted that he is the first member of JIPMER faculty to participate in such a programme at MDNIY.

UPCOMING ACTIVITIES

1. Yoga awareness programme for medical professionals at JIPMER
2. CME on “Therapeutic potential of yoga” for medical professionals in association with IMA, Puducherry chapter.
3. Monthly yoga camps for diabetes and hypertension in urban and rural Puducherry.
4. Weekly academic programmes at ACYTER

From
Advanced Centre for Yoga Therapy, Education and research (ACYTER)  
Department of Physiology, JIPMER, Puducherry – 605 006

To