

## Curriculum Vitae

**Surname:** Tunkamnerdthai

**First Name:** Orathai

**Birth Date & Country:** 28 June 1970, Thailand

**Age:** 47 years

**Nationality:** Thai

**Sex:** Female

**Education :** M.Sc. (medical physiology) Khon Kaen University 1994 – 1997  
ป.โท สาขาสรีรวิทยาทางการแพทย์

Khon Kaen, Thailand

Thesis title is ventilatory response to hypoxia in asthmatic patients after unilateral carotid body resection.

Diploma in Nursing Science Nakornrajsima nursing college 1988 - 1992  
Nakornrajsima, Thailand

**Current employment (1998-Now):** Government officer

University/Institution

Khon Kaen University

Faculty

Faculty of Medicine

Department

Department of Physiology

Position

Assistant Professor

Teach in physiology especially in respiratory system for

19 yrs.

**Previous employment (1992-1994):** Government officer

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Nurse

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## Publications

1. Manimmanakorn A, Manimmanakorn N, **Tunkamnerdthai O**. Effects of modified Thai Esan folk dance on VO<sub>2</sub> max. and satisfaction among elderly people. *KKU Res J* 2001; 6(1):84-91.
2. **Tunkamnerdthai O**, Khrisanapant W, BochsawatW. Ventilatory response to hypoxia in asthmatic patients after unilateral carotid body resection. *Thai J Tuberc Chest Dis* 1999; 20: 211-223.
3. **Tunkamnerdthai O**, Khrisanapant W, Suthitum T, Wannanon P. Spirometric values in healthy northeast Thai children and adolescents. *Srinagarind Med J* 2003; 18(3): 143-153.
4. Auvichayapat P, PrapoChanung M, **Tunkamnerdthai O**, Auvichayapat N. Effectiveness of green tea on weight reduction in obese Thais. *Srinagarind Med J* 2007; 22(2): 182-189.
5. AuvichayapatP, PrapoChanungM, **Tunkamnerdthai O**, SripanidkulchaiB, AuvichayapatN, ThinkhamropB, KunhasuraS, WongpratoomS, SinawatS, HongprapasP. Effectiveness of green tea on weight reduction in obese Thais: A randomized, controlled trial. *Physiology & Behavior* 2008; 93: 486-491.
6. Wattanathorn J, Chonpathompikunlert P, Muchimapura S, Priprem A, **Tunkamnerdthai O**. Piperine, the potential functional food for mood and cognitive disorders. *Food Chem Toxicol* 2008; 46(9): 3106-3110.
7. Leelayuwat N, **Tunkumnerdthai O**, Donsom M, Punyaek N, Manimanakorn A, Kukongviriyapan U, Kukongviriyapan V. An alternative exercise and its beneficial effects on glycaemic control and oxidative stress in subjects with type 2 diabetes. *Diabetes Res Clin Pract* 2008; 82(2): e5-8.
8. Leelayuwat, N, Saelim B, **Tunkumnerdthai O**, Hongsaprapas P, Wattanathorn J. Glycaemic index and insulinaemic response to Thai foods in healthy subjects. abstracts 19<sup>th</sup> International Congress of Nutrition *Ann Nutr Metab* 2009; 55 (Suppl 1): 293.
9. Khrisanapant W, Sutthitum T, **Tunkamnerdthai O**. Lung volume and function in male adolescents in Northeast Thailand: students from Khon Kaen Sport School in comparison with other schools in Khon Kaen Province. *Srinakarind Med J* 2011;26(2):98-105.
10. Tarasee W, Khrisanapant W, Ishida W, **Tunkumnerthai O**, SutthitumT, PasuriwongO. Golf Injury and Precautions. *Srinagarind Med J* 2011; 26(4): 363-372.
11. Prasertsri P, Roengrit T, Kanpetta Y, **Tunkamnerdthai O**, Muchimapura S, Thong-un T, Wattanatorn J, Leelayuwat N. The effect of acute ingestion of cashew apple juice on cardiac autonomic function during heavy exercise in sport players. *KKU Res J: Supplement* 2012; 12 :50-61.
12. Leelayuwat N, Laddawan S, Kanpetta Y, Benja M, Wongpan D, **Tunkamnerdthai O**, Wattanathorn J, Muchimapura S, Yamauchi J. Quercetin Enhances Endurance Capacity via Antioxidant Activity and Size of Muscle Fibre Type 1. *Journal of Pharmacy & Nutrition Sciences* 2012; 2: 160-164.

13. Garnett JP, Hickman E, **Tunkamnerdthai O**, Cuthbert AW, Gray MA. Protein Phosphatase 1 Coordinates CFTR-Dependent Airway Epithelial HCO<sub>3</sub><sup>-</sup> Secretion by Reciprocal Regulation of Apical and Basolateral Membrane Cl<sup>-</sup>/HCO<sub>3</sub><sup>-</sup> Exchangers. *Br J Pharmacol* 2013; 168: 1946-1960.
14. **Tunkamnerdthai O**, Auvichayapat P, Boonmars T, Tavichakorntrakool R, Leelayuwat N. *Houttuynia cordata* Thunb. extract attenuates dyslipidemia in high-fat-diet-induced obese rats. *Srinagarind Med J* 2013 (Suppl); 25: 206.
15. Konchan K, Srikham Y, Barusrux S, Pinlaor P, Lulitanond A, Sribenjalux P, Sungkeeree S, Saisud P, **Tunkamnerdthai O**, Prasongwatana V, Tavichakorntrakool R. Occurrence and characterization of crystalluria in renal stone formers with and without urinary tract infection. *Srinagarind Med J* 2013 (Suppl); 25: 206.
16. Sakrajai P, Janyacharoen T, Jensen MP, Sawanyawisuth K, Auvichayapat N, **Tunkamnerdthai O**, Keeratitanont K, Auvichayapat P. Pain Reduction in Myofascial Pain Syndrome by Anodal Transcranial Direct Current Stimulation Combined with Standard Treatment: A Randomized Controlled Study. *Clin J Pain* 2014; 30(12): 1076-83.
17. Aree-uea B, Auvichayapat N, Janyacharoen T, Sitaratiwat W, Amatachaya A, Prasertnoo J, **Tunkamnerdthai O**, Thinkhamrop B, Jensen MP, Auvichayapat P. Reduction of spasticity in cerebral palsy by anodal transcranial direct current stimulation. *J Med Assoc Thai* 2014; 97(9): 954-62.
18. **Tunkamnerdthai O**, Auvichayapat P, Donsom M, Leelayuwat N. Improvement of pulmonary function with arm swing exercise in patients with type 2 diabetes. *J Phys Ther Sci* 2015; 27: 649-54.
19. Smanthong N, Tavichakorntrakool R, Saisud P, Prasongwatana V, Sribenjalux P, Lulitanond A, **Tunkamnerdthai O**, Wongkham C, Boonsiri P. Biofilm formation in trimethoprim/sulfamethoxazole-susceptible and trimethoprim/sulfamethoxazole-resistant uropathogenic *Escherichia coli*. *Asian Pac J Trop Biomed* 2015; 1-3.
20. Auvichayapat N, Sinsupan K, **Tunkamnerdthai O**, Auvichayapat P. Transcranial direct current stimulation for treatment of childhood pharmacoresistant Lennox-Gastaut syndrome: a pilot study. *Front Neurol* 2016; 7: 66.
21. **Tunkamnerdthai O**, Auvichayapat P, Punjaruk W, Leelayuwat N, Zaeoue U, Boonsawat W, Patjanasoonporn B. Effects of modified arm swing exercise on pulmonary function in patients with chronic obstructive pulmonary disease. *Srinagarind Med J* 2016 (Suppl); 31(5): 84.
22. Phoemsaphawee J, Settasatian N, Sirijaichingkul S, **Tunkamnerdthai O**, Leelayuwat N. *J Exerc Physiol* online 2016; 19(6): 145-55.
23. Panyaek N, Sirivong D, Konharn K, **Tunkamnerdthai O**, Aneknun P, Leelayuwat N. Exercise intensity and substrate utilization in healthy sedentary females using the Life-Build-Line device. *J Med Assoc Thai* 2017; 100(3): 318-25.
24. Auvichayapat P, Aree-uea B, Auvichayapat N, Phuttharak W, Janyacharoen T,

**Tunkamnerdthai O**, Boonphongsathian W, Ngernyam N, Keeratitanont K. Transient change in brain metabolites after transcranial direct current stimulation in spastic cerebral palsy: a pilot study. *Front Neurol* 2017; 8: 366.

25. Thammawong S, Krasuaythong N, Kanpettha Y, **Tunkamnerdthai O**, Leelayuwat N. Effects of sex and intensity of exercise on circulating leukocyte counts after exercise in trained participants. *J Exerc Physiol online* 2017; 20(4): 11-3.

26. Saengjan W, Pasurivong O, **Tunkamnerdthai O**, Manimmanakorn N, Thuwakam W, Wonnabussapawich P, Manimmanakorn A. Effect of Whole Body Vibration on Body Composition and Muscular Strength in Overweight Females. *Srinagarind Med J* 2017; 32(4): 344-50.

27. Wonnabussapawich P, Hamlin MJ, Lizamore CA, Manimmanakorn N, Leelayuwat N, **Tunkamnerdthai O**, Thuwakum W, Manimmanakorn A. Living and Training at 825 m for 8 Weeks Supplemented With Intermittent Hypoxic Training at 3,000 m Improves Blood Parameters and Running Performance. *J Strength Cond Res* 2017; 31(12): 3287-94.

## Research presentation

1. **Tunkumnerdthai O**, Kukongviriyapan U, Kukongviriyapan V, Preepram S, Pakdeechote P, Slaelanon K. Antihypertensive effect of the ethanol extract from *CarthamusTinctorius*Linn.in renal hypertensive rat model. 34<sup>th</sup> International Congress of Physiological Sciences, Christchurch, New Zealand 2001; Abstract ID Number 401.
2. Khrisanapant W, **Tunkamnerdthai O**, SuthitumT,Wannanon P. Cardiorespiatory function and sport in Thai Children. XXXIV International Congress of Physiological Sciences, Christchurch, New Zealand 26 – 31 August 2001.
3. Khrisanapant W, **Tunkumnerdthai O**, Suttitum T, Wannanon P. Respiratory fitness in football practised children and adolescents The 18th Faculty of Medicine Annual Meeting 2002 Oct (abstract).
4. Khrisanapant W, **Tunkumnerdthai O**, Suttitum T, Wannanon P. Changes in respiratory function in different sport schoolboys The XXXV International congress of Physiological Sciences 2005 April 2-6, San Diego, CA.
5. **Tunkamnerdthai O**, Leelayuwat N, Donsom M, Punyaek N, Pratipanawatr T, Kukongviriyapan U, Khrisanapant W. Pulmonary function and cardiovascular risks in type 2 diabetes mellitus. 1<sup>st</sup> International Congress on “Prediabetes” and the Metabolic Syndrome, Berlin, Germany 13-16 April 2005.
6. Leelayuwa N, **Tunkamnerdthai O**, Donsom M, Punyaek N, Pratipanawatr T, and Kukongviriyapan U. Effects of arm exercise on metabolic parameters in type 2 diabetic Thai patients. The 8th European Congress on Endocrinology: Glasgow, UK, April 1-5, 2006.
7. Peungsuwan P, Leelayuwat N, Donsom M, Promdee K, **Tunkumnerdthai O**, KomanasinN,NaNagaraR,PratipanawatrT,MacdonaldI. Effects of Thai wand exercise on basal metabolic rate and body composition. The Physical Activity and Obesity Satellite Conference: Brisbane, Australia, August 31- September 2, 2006.
8. Leelayuwat N, Peungsuwan P, Donsom M, Promdee K, **Tunkumnerdthai O**, Komanasin N, NaNagara R, Pratipanawatr T, Macdonald I. Effects of Thai wand exercise on cardiovascular risks in healthy elderly Thai subjects. The Physical Activity and Obesity Satellite Conference: Brisbane, Australia, August 31- September 2, 2006.
9. Ladawan S, Buranrak O, Wichitsranoi J, **Tunkumnerdthai O**, Makarawate P, Suwanich T, Leelayuwat N. Cardio-pulmonary function and fuel utilization during arm swing exercise in healthy elderly.The 10<sup>th</sup> research presentation: Faculty of Education, Khon Kaen University, January 18, 2008.
10. Dumrongchua J, Khrisanapant W, **Tunkamnerdthai O**. Respiratory muscle strength and pulmonary function in sedentary Thais. GRC, Khon Kaen University, February, 2012.
11. Dumrongchua J, Khrisanapant W, **Tunkamnerdthai O**. Modification of cardiac autonomic control by brisk mashing in sedentary Thai women. AGRC, Chaing Mai University, March, 2012.

12. Prasertsri P, Roengrit T, Kanpetta Y, **Tunkamnerdthai O**, Muchimapura S, Thong-un T, Wattanatorn J, Leelayuwat N. The effect of acute ingestion of cashew apple juice on cardiac autonomic function during heavy exercise in sport players. SAT 4<sup>th</sup> National Sports Science Research Conference, 2012.

13. **Tunkamnerdthai O**, Auvichayapat P, Donsom M, Leelayuwat N. Effect of arm swing exercise on pulmonary functions in type 2 diabetic patients. The 4<sup>th</sup> International Conference on Sport and Exercise Science, Bangkok, March 2013.

14. **Tunkamnerdthai O**, Auvichayapat P, Boonmars T, Tavichakorntrakool R, Leelayuwat N. *Houttuyniacordata* Thunb. extract attenuates dyslipidemia in high-fat-diet-induced obese rats. The 29th Faculty of Medicine Annual Meeting, Khon Kaen, October 2013.

15. Konchan K, Srikham Y, Barusrux S, Pinlaor P, Lulitanond A, Sribenjalux P, Sungkeeree S, Saisud P, **Tunkamnerdthai O**, Prasongwatana V and Tavichakorntrakool R. Occurrence and characterization of crystalluria in renal stone formers with and without urinary tract infection. The 29th Faculty of Medicine Annual Meeting, Khon Kaen, October 2013.

16. **Tunkamnerdthai O**, Auvichayapat P, Tavichakorntrakool R, Leelayuwat N. Effects of alternative exercise on dynamic lung volume in type 2 diabetic patients. The 6<sup>th</sup> Exercise and Sports Science Australia Conference and Sport Dietitians Australia: Update Research to practice. Adelaide, Australia, April 10-12, 2014.

17. Smanthong N, Tavichakorntrakool R, Prasongwatana V, Sribenjalux P, Lulitanond A, Saisud P, **Tunkamnerdthai O**, Boonsiri P, Wongkham C. Comparative analysis of bacterial characteristics of trimethoprim/sulfamethoxazole (SXT) susceptible and resistant *Escherichia coli*. The International Medical Sciences Conference 2014 "Translational Research from Molecular Basis to Health Care" Pullman Khon Kaen Raja Orchid Hotel, Khon Kaen, July 15-17, 2014.

18. Tavichakorntrakool R, Saisud P, Sungkeeree S, Suwantrai S, Sribenjalux P, **Tunkamnerdthai O**, Bovornpadungkitti S, Tongboonkerd V, Prasongwatana V. The association of Tamm-Horsfall protein with the levels of potassium, magnesium and calcium in the urine of stone formers and healthy subjects. Pan-Asian Biomedical Sciences Conference. Charles K. Kao Auditorium, Hong Kong Science Park, Hong Kong, Dec 11-12, 2014.

19. Sribenjalux P, Tavichakorntrakool R, Amimanan P, Mahawang P, Sabuaban N, Sungkeeree S, Saisud P, Lulitanond A, **Tunkamnerdthai O**, Asayut N, Prasongwatana V. Crystal formation in human urine by bacteria isolated from kidney stone patients. The 1<sup>st</sup> ASEAN Conference of Clinical Laboratory Sciences and the 26<sup>th</sup> Annual Scientific meeting of SAMLs, Singapore General Hospital Campus, Singapore, June 21-23, 2015.

20. **Tunkamnerdthai O**, Auvichayapat P, Boonsiri P, Chaiwiriyakul S, Tavichakorntrakool R, Leelayuwat N. Extract of *Houttuyniacordata* Thunb. improves fat accumulation and dyslipidemia in rats fed with high-fat diet. MedSci Congress 2015, Queenstown, New Zealand, August 31-September 2, 2015.

21. Auvichayapat P, Ngernyam N, Jensen MP, Phuttharak W, Thammaroj J, Punjaruk W, **Tunkamnerdthai O**, Arayawichanon P, Auvichayapat N. Changes in Brain Metabolites after Transcranial Direct Current Stimulation in Patients with Neuropathic Pain from Spinal Cord Injury: A Pilot Study. MedSci Congress 2015, Queenstown, New Zealand, August 31-September 2, 2015.

22. Kanpetta Y, Krasuaythong N, Boontongkaew C, Wongpan D, Thammawong S, Sungkeeree S, Tong-un T, **Tunkamnerdthai O**, Leelayuwat N. The effect of intensity of exercise on heart rate variability during exercise in Thai patients with type 2 diabetes mellitus. The 1st National Physical Activity, Queen Sirikit National Convention Center, Thailand, November 17-18, 2015.

23. **Tunkamnerdthai O**, Auvichayapat P, Punjaruk W, Leelayuwat N, Zaeoue U, Boonsawat W, Patjanasootorn B. Effects of modified arm swing exercise on pulmonary function in patients with chronic obstructive pulmonary disease. The 32nd Faculty of Medicine Annual Meeting, Khon Kaen, October 2016.

24. **Tunkamnerdthai O**, Auvichayapat P, Punjaruk W, Leelayuwat N, Zaeoue U, Kaew Thanomsien, Thipsuda Pananto, Dararat Chantha, Nikom Tasao, Boonsawat W, Patjanasootorn B. Effects of modified arm swing exercise on exercise capacity and quality of life in patients with chronic obstructive pulmonary disease. The 8th APCESS 2017 and 7th ICSES 2017, Bangkok, June 14-16, 2017.

25. Saengjan W, Pasurivong O, **Tunkamnerdthai O**, Manimmanakorn N, Thuwakam W, Wonnabussapawich P, Manimmanakorn A. Whole Body Vibration Training Reduces Body Weight and Blood Pressure in Obese Females. The 45<sup>th</sup> PHYSIOLOGICAL SOCIETY OF THAILAND ANNUAL MEETING: "Translational Physiology: Implications in Health and Disease", KHON KAEN, 6<sup>th</sup> – 8<sup>th</sup> December 2017.

## Research interest

Respiratory Physiology, Exercise Physiology