

คอยสุเทพ เป็นศรี  
ประเพณี เป็นสง่า  
บุปผชาติ ล้วนงามตา  
งามล้ำค่า นครพิงค์

สถาบันพัฒนาการเด็กราชนครินทร์  
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ขอต้อนรับทุกท่าน  
ด้วยความยินดียิ่ง



## Two years Experiences on Hippotherapy in Autistic Children

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## Hippotherapy

was set up since **6 feb 2008** by the co operation between

**RAJANAGARINDRE INSTITUTE OF CHILD DEVELOPMENT**  
Department of Mental Health  
Ministry of Public Health

**PACKSQUADRON CHIANGMAI**  
ROYAL THAI ARMY Ministry of Defense

**Autistic's parents**

**Rajanagarindra Institute of Child Development**  
Department of Mental Health  
Ministry of Public Health  
THAILAND



## RICD

- **training teacher** knowledge in Autistic and developmental stimulation
- **prepare autistic children and their parents** for understanding the programs
- **training parents** as a teacher's aid for safety purpose and developmental stimulation during the programs
- **do the assessment** of the autistic children before and after 12 sessions of hippotherapy

PACK SQUADRON CHIANGMAI  
ROYAL THAI ARMY



Ministry of Defense  
THAILAND



กองพันสัตว์ต่าง กรมการสัตว์ทหารบก

## PACKSQUADRON CHIANGMAI

- **horses** ( tame and well trained horses)
- **place**
- **trained teachers** ( skillful in horseback riding and also have a knowledge in Autistic and developmental stimulation)
- **teacher's aids** for safety purpose

## Autistic's parents

- **sign inform consent** let their children to join the program and allow the researcher to study the developmental outcome of the children
- **Be teacher's aid** for safety purpose and developmental stimulation during the programs
- **do the questionnaires** to assess the programs and developmental outcome of the children.



## Hippotherapy

The word hippotherapy is derived from the Greek word "hippo," which means "horse."

## Hippotherapy

- It describes physical, occupational, or speech therapy that uses the multidimensional movement of a walking horse to stimulate the rider and help enhance balance, good posture, mobility, coordination, and strength.
- Often, hippotherapy aids mental functioning, improves mood and self-confidence as well

## Hippotherapy

- The rhythmic and multidimensional movement of the horse provides variable yet repetitive sensory stimulation to patients.
- That stimulation can be varied and manipulated by a trained therapist to fit a patient's needs and stimulate improved functioning of daily living.
- For example, physical therapists can use a variety of horse movements to improve gross motor abilities, such as sitting, standing, and walking.

## Hippotherapy

- According to the [American Hippotherapy Association](#), hippotherapy is indicated for children and adults with mild to severe neuromuscular dysfunction.

## Hippotherapy

[American Hippotherapy Association](#)

It aids impairments such as

abnormal muscle tone;

impaired balance, coordination, and sensory function; postural asymmetry;

poor postural control;

and decreased mobility.

Hippotherapy has been used for conditions such as cerebral palsy (CP), developmental delays, traumatic brain injury, stroke, and autism.

## Hippotherapy

Hippotherapy has been used in the U.S. since the 1970's.

However, it is still considered an experimental and investigational treatment

because there is insufficient scientific evidence for its effectiveness in the treatment of CP, autism, and other conditions characterized by motor dysfunction.



## The Effect of Therapeutic Horseback Riding on Social Functioning in Children with Autism

### Journal of Autism and Developmental Disorders

Bass, MM, Duchowny CA, and Llabre MM, published in 2009, summarized Oct 5, 2009

Children with autism who rode horses as therapy showed improvements in several social skills after 12 weeks of therapy.

This study compared before-therapy and after-therapy scores on social skills tests for 19 children (5-10 years old).

Children were improved in sensory seeking and sensitivity. They also had more social motivation and were less distracted.

The authors said that this is the first study to measure the impact of horseback riding on social skills in children with autism.

## Hipotherapy in Autistic children

- The findings indicate that hippotherapy may have a place in the treatment of children with autism.
- However, more studies need to demonstrate its therapeutic effectiveness before hippotherapy is widely recommended as a treatment for autism.

## Two years experiences on hippotherapy in autistic children

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## Autism

- Autism is a developmental disorder characterized by
  - Impairment in social relatedness
  - Impairment in language and communication
  - Restricted repetitive and stereotyped patterns of behavior, interests and activities.

# Autism

- The cause of autism has not been found
- There is no cure, but treatment can help.
- Treatments include behavior, communication therapies and medicines to control symptoms.

# Objectives

- Study the developmental and behavioral outcome of autism after 12 weeks of Hippotherapy.

## Methods and materials

- - The children who were diagnosed Autism by DSM IV criteria.
- - Hippotherapy was done every week on Wednesday for 12 sessions (1Hr. /session)

## *Diagnostic and Statistical Manual of Mental Disorders: DSM IV*

The following is from

- (I) A total of **six (or more) items from (A), (B), and (C)**, with at least two from (A), and one each from (B) and (C)
- (II) Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years:
  - (A) social interaction
  - (B) language as used in social communication
  - (C) symbolic or imaginative play
- (III) The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder

## Diagnostic and Statistical Manual of Mental Disorders: DSM IV

A qualitative **impairment in social interaction**, as manifested by at least two of the following:

A1. marked **impairments in the use of multiple nonverbal behaviors** such as eye-to-eye gaze, facial expression, body posture, and gestures to regulate social interaction

A2. **failure to develop peer relationships** appropriate to developmental level

A3. **a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people**, (e.g., by a lack of showing, bringing, or pointing out objects of interest to other people)

A4. **lack of social or emotional reciprocity** ( note: in the description, it gives the following as examples: not actively participating in simple social play or games, preferring solitary activities, or involving others in activities only as tools or "mechanical" aids )

## Diagnostic and Statistical Manual of Mental Disorders: DSM IV

B **qualitative impairments in communication** as manifested by at least one of the following:

B1. **delay in, or total lack of, the development of spoken language** (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime)

B2. in individuals with adequate speech, **marked impairment in the ability to initiate or sustain a conversation** with others

B3. **stereotyped and repetitive use of language or idiosyncratic language**

B4. **lack of varied, spontaneous make-believe play or social imitative play** appropriate to developmental level

## Diagnostic and Statistical Manual of Mental Disorders: DSM IV

C **restricted repetitive and stereotyped patterns of behavior, interests and activities**, as manifested by at least two of the following:

C1. encompassing preoccupation with one or more **stereotyped and restricted patterns of interest** that is abnormal either in intensity or focus

C2. apparently **inflexible adherence to specific, nonfunctional routines or rituals**

C3. **stereotyped and repetitive motor mannerisms** (e.g hand or finger flapping or twisting, or complex whole-body movements)

C4. **persistent preoccupation with parts of objects**



## Methods and materials

**Assessments of effectiveness** include

- The speech and language assessment by speech and language pathologist .
- The standard forms
  - Aberrant Behavior Checklist (ABC)
  - Autism Treatment Evaluation Checklist (ATEC)
  - Conners Parent Questionnaire (CPQ).

## Methods and materials

**Assessments of effectiveness** include

- The development and behavior reports from researcher's teams, their parents and their teachers.
- The satisfactory outcome of the parents and the children



## Results

- The 47 autistic children (age 3.3 -17.2 yr.) from RICD were studied

<b>Autistic children</b>	<b>No</b>
Male	37
Female	10
<b>Total</b>	<b>47</b>

## Results

Tool		improved case	No	%
Speech and language	Level		15	31.91
	Boehm test of basic concepts		14	29.79
	Age		16	34.04
Standard forms	ABC		31	65.96
	A TEC		33	70.21
	CPQ		28	59.57

## Results

Tool		improved case	No	%
reports from researcher's teams, their parents and their teachers.	Gross motor		40	85.11
	Activity of Daily Living		33	70.21
	Animal Relation		42	89.36
	Repetitive behavior		29	61.70
	Social Relationships		44	93.62
	Emotional control		38	80.85
	Development		47	100
	Self esteem		32	68.09
satisfactory outcome of parents and children			47	100

## Conclusions

- Hippotherapy may help children with autism.



