




TRAMA *TR*aining in *M*otion *A*nalysis

**Second Course "Motion Analysis and clinics:
why to set up a Motion Analysis Lab ?"**

TRAMA Project

January 14 - 17th 2008







**CLINIC CASE
CRIT OCCIDENTE**




DRA. ARIADNA ANANDY CEDILLO MARADIAGA

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DAVID LOZA






Name: David Loza.
Address: Sahuayo Michoacan.
Date of birth: Novembre, 18^{in.}, 1998.
Sex: Male.
Marital Status: Single.
Education: 3rd. Grade.

Zahuayo Michoacán is found 3 hours away from Guadalajara City, they don't have their own transportation.
He is in 3th. Grade and is a good student.

Consultation motive: Difficulty to move legs; mainly to stand up and walk.

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ANTECEDENTES

His father is 40 years old, reported healthy, third grade schooling, driver in a porcine farm, denies tabaquism, alcoholismo and other addictions.

His mother is 39 years old, reported healthy, housewife, first grade schooling, denies tabaquism, alcoholism and other addictions.

Maternal grandmother with Diabetes Mellitus.

He had four brothers, (The oldest died when he was 17 years old due to, cerebral palsy, severe spastic quadriparesis. The other siblings are reported healthy.

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ANTECEDENTS

PRENATAL: Fifth pregnancy product, non planed, appropriate prenatal control, normo-evolutive pregnancy.

NATAL: Natural delivery, induced, full term pregnancy, 3 Kg weight, no complications.

POSTNATAL: physiologic icteritia, treated with sunlight.

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PSYCHOMOTOR DEVELOPMENT:

Gross Motor: Control of the neck at 3 months old, sedestation at 5 months old, crawling at 8 months old, bipedestation at 10 months old, independent gait at 11 months old.

Fine Motor: Gross prension 5 months old, fine prension 7 months old.

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BEGINING AND EVOLUTION OF THE ILLNESS

Gastrointestinal infection when he was one year and two months old with fever and sever diarrhea that kept him hospitalized for 11 days. One month later his parents realized that David can not move his legs.

They go to a peditrician with spasticity as a Diagnosis.

Rehabilitation begins, which is inconsistent due to a difficult transportation. The patient has had different ortesis.

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TERAPEUTIC

To the date the patient continues with Rehabilitation at the Teleton Cerebral Lesion Clinic, with a diagnostic of moderated espastic paraparesia.

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PHYSICAL EXAMINATION

Male patient, looking in appearance the same chronological age he has, his mental superior functions are integral.

Realizes independent gait, barefoot, alternate swing of arms, with flexion of hips and knees, deficient phases at the heel strike and the propulsion, with support in plane bilateral valgus.

When using ortesis, left apparatus thigh podalic kafo and right apparatus short afo, shows increase in the alternating stroke, there is no flexion of the left knee, phases deficient, with affection in the wideness of step, greater difficulty to release the step.

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Functional superior members.

Inferior members with complete arcs of passive mobility with exception of the hips abduction, and extension of knees in last degrees; muscular tone increased to degree II of Ashworth, hyper-reflexes, contracture of isquiotibialis, adductive of hips. He presents/displays bilateral babinski and clonus, deficient voluntary movement.

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Video 10587, Without ortesis.

Realizes independent gait, barefoot, alternate swing of arms with flexion of hips and knees, deficient phases at the heel strike and the propulsion, with support in plane bilateral valgus.



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Centro de Rehabilitación Infantil TELETON

Nombre: IGZEA FORBES DAVID
Edad: 9
Peso (kg): 28

Medicos Asesores:
Medico Fisioterapeuta: ERIKA FLORES CALDERON DE LA B
Medico Neuro LUMI: ERIKA ARRIAGA AMANDY CEBILLO M

Informe
Tipo de evaluación: 1 - Caminata Normal 02
Fecha: 13/10/2007
Conceptos: Evolución del caminar, independencia.

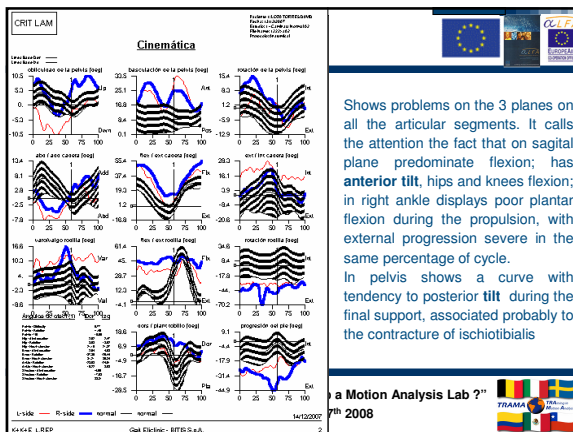
Estudio del caminar, independiente.

Parámetros observados	Derecha		Izquierda		Diferencia	Rango
	Val	Lim	Val	Lim		
Distancia caminata	750	840	840	840	000	000
Tiempo de soporte (mseg)	270	510	510	510	240	240
Tiempo de balanceo (mseg)	39	39	39	39	000	000
Tiempo de soporte (% del ciclo)	42	42	42	42	000	000
Distancia del ciclo completo (mseg)	1360	1450	1450	1450	90	90
Calentamiento	05					
Distancia de doble soporte (mseg)	Derecha: 280, Izquierda: 280		Derecha: 280, Izquierda: 280			
Porcentaje de doble soporte (% ciclo)	20		20			

Parámetros observados	Derecha		Izquierda		Diferencia	Rango
	Val	Lim	Val	Lim		
Longitud del paso (m)	0,21	0,26	0,26	0,26	0,05	0,05
Velocidad (m/mseg)	0,07	0,09	0,09	0,09	0,02	0,02
Velocidad de balanceo (m/mseg)	1,81	1,86	1,86	1,86	0,05	0,05
Compensación de la longitud del ciclo	916,34	996,70	996,70	996,70	80,36	80,36
Velocidad de avance (% ciclo)	10,00	10,00	10,00	10,00	0,00	0,00
Velocidad de avance (% ciclo)	0,01					

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The time of support has increased, as well as the balance of bilateral step. But the percentages are similar in both legs. The cadence is diminishing. The step longitud is normal in right foot and discreetly diminished in the left foot. The velocities are diminished as well. The wideness of the step is in the superior limit.



Shows problems on the 3 planes on all the articular segments. It calls the attention the fact that on sagittal plane predominate flexion; has **anterior tilt**, hips and knees flexion; in right ankle displays poor plantar flexion during the propulsion, with external progression severe in the same percentage of cycle. In pelvis shows a curve with tendency to posterior tilt during the final support, associated probably to the contracture of ischiotibialis

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Video 10580

When using ortesis, left apparatus thigh podalic kafo and right apparatus short afo, shows increase in the alternating stroke, there is no flexion of the left knee, phases deficient, with affection in the wideness of step, greater difficulty to release the step.

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Centro de Rehabilitación Infantil TELETON

Datos Demográficos: Nombre(s): GONZALEZ DAVID, Apellido(s): PONSALBO CEREJAL INFANT, Edad: 9, Sexo: M, Ponderal (kg/m³): 26

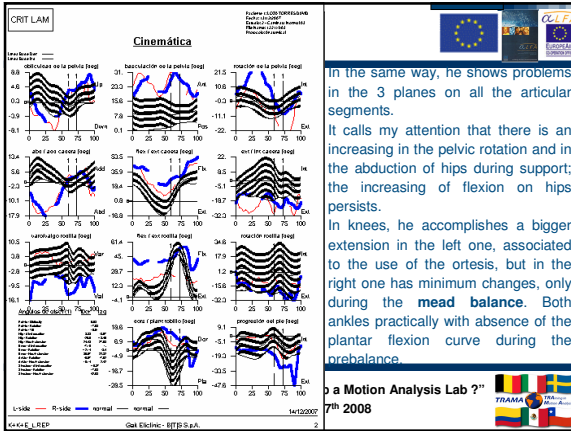
Motivos de Consulta: Médico Acompañante: CECILIA FLORES CALDERON DE LA B, Médico Referente: JUAN JOSÉ ESPINOSA ANANBY CEDILLO

Informe: Tipo de Evaluación: 2 - Control Normal (0), Fecha: 15/10/07, Comentarios: Estudio control con ortesis (propuesta)

Parámetro	Var	Est	Ref	Com
Existencia de marcha	1000	800	1000	1000
Tiempo de apoyo (% ciclo)	410	500	400	400
Tiempo de apoyo (% del ciclo)	72	69	72	72
Tiempo de balanceo (% del ciclo)	28	41	28	28
Duración del ciclo de marcha (% ciclo)	1400	1400	1400	1400
Cadena de marcha (% ciclo)	62	62	62	62
Duración de doble apoyo (% ciclo)	100	100	100	100
Porcentaje de doble apoyo (% ciclo)	100	100	100	100

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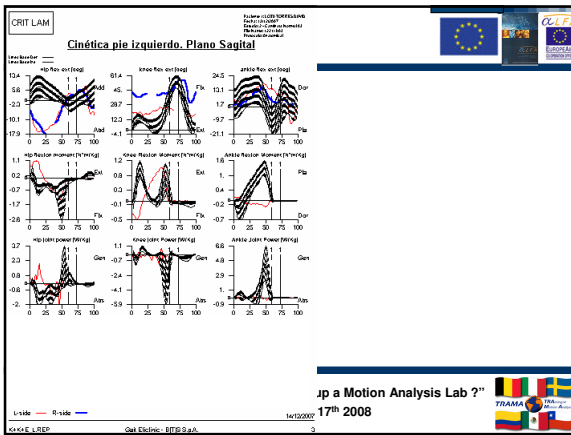
Shows an increasing in the time of support and bilateral step, and the balance in left pelvic member as well. There is a decreasing longitude of step and velocities, with an increasing in wideness of step.



In the same way, he shows problems in the 3 planes on all the articular segments.

It calls my attention that there is an increasing in the pelvic rotation and in the abduction of hips during support; the increasing of flexion on hips persists.

In knees, he accomplishes a bigger extension in the left one, associated to the use of the orthesis, but in the right one has minimum changes, only during the **mead balance**. Both ankles practically with absence of the plantar flexion curve during the rebalance.



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CONCLUSIONS:

When using the orthesis he keeps better alignment during the bipedestation.

The gait is more effective without using the orthesis, but with more involvement in the articular mobility.

To consider the remove of the orthesis.

Clinically, if we insist in a check-up of the gait, we will be able to detect that is less effective the movement with orthesis,

But with the study it is corroborated and it shows in which articular segments there is a bigger problem, this in each one of the situations, without and with orthesis.

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