

# PEDIATRIC ORTHOTICS

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# WHY DO KIDS NEED ORTHOTICS

## The 3 P's

Protect

Promote

    fxal ability

    normal positioning

Prevent

    future complications



# AREAS FREQUENTLY BRACED IN KIDS

Head

Neck

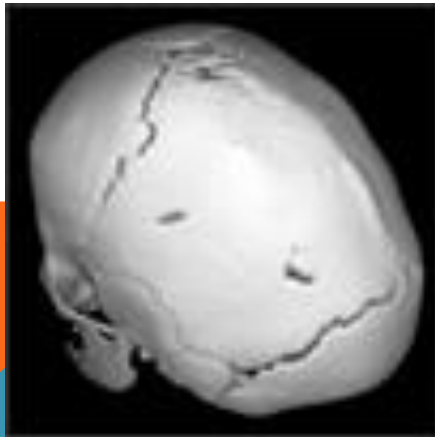
Back/trunk

Upper Extremities- elbows, wrist, fingers, thumb

Lower Extremities- hips, knees, ankles, feet



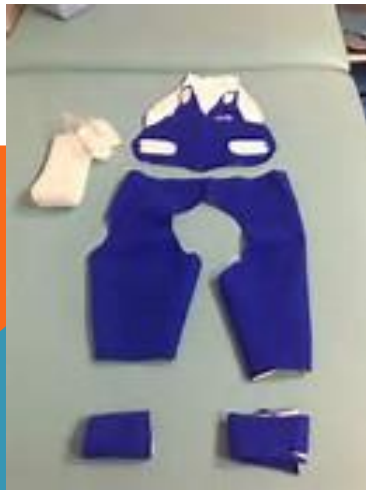
# HELMETS



# NECK



# TRUNK AND BACK

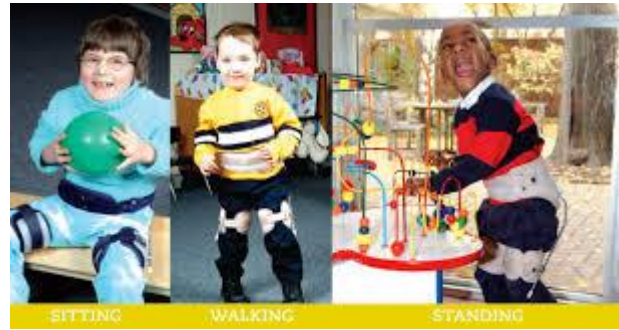


# UPPER EXTREMITY





# LOWER EXTREMITY





# PEDIATRIC BRACING

## PROBLEMS

Plagiocephaly or  
craniosynostosis

Torticollis

Hypotonia

Hypertonia

Lack of sensation

## DIAGNOSIS

## EXAMPLES

Cerebral Palsy

Spina bifida

Muscular Dystrophies

Clubfoot

Spinal Cord Injury



# PROBLEMS

KIDS ARE.....

Not always cooperative

Afraid of provider or equipment

sure step fitting vs Dafo SMO

Have less surface area of body part to brace

They are growing! Need frequent adjustments

rotation deformities

worsening contractures

outgrow them sooner



# DEFORMITIES YOU SHOULD RECOGNIZE

Calcaneal valgus



# DEFORMITIES YOU SHOULD RECOGNIZE

Cavus foot



# DEFORMITIES YOU SHOULD RECOGNIZE

Hallux valgus



# DEFORMITIES YOU SHOULD RECOGNIZE

Clubfoot



# DEFORMITIES YOU SHOULD RECOGNIZE

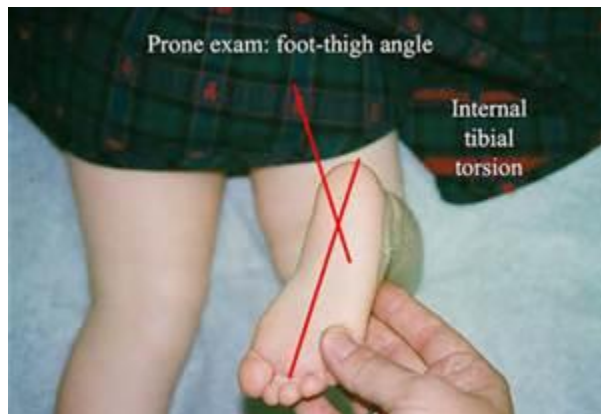
External tibial torsion



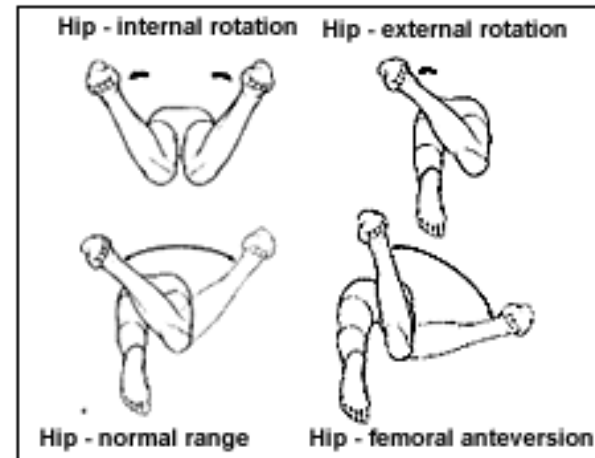


# DEFORMITIES YOU SHOULD RECOGNIZE

## Interbital tibial torsion



## Femoral anteversion



# DEFORMITIES YOU SHOULD RECOGNIZE

Genu valgum



# DEFORMITIES YOU SHOULD RECOGNIZE

Genu Varum



# PEDIATRIC BRACING

Know What you can fix....

and

What you **CANT**

And what it cost



# DR EMERSON PEARL

Dr Ed Wright made me walk up and down ramps for about 20 min until I got this!

## Plantar flexion, Knee extension couple

-important in AFOs

Simply....

Flexion follows flexion!

Excessive DF leads to knee flexion and hip flexion

PF contracture leads to knee hyperextension (recurvatum)

your angle will affect knee stability and crouch

# FINAL THOUGHTS

Toddlers with hemiparesis usually need both feet braced

Don't forget floor mobility in young children

Necessary brace may be too heavy developmentally

Consider donning and doffing

CMT

car rides/sitting .....

Consider what plane or planes you are bracing

Use least restrictive brace

