





# Interventions for children with cerebral palsy



## Fact Sheet Library

There are many interventions for your child with cerebral palsy. This library of Fact Sheets will help you work out which ones are most suitable. This Fact Sheet is based on research. It shows what the research says about different interventions using a 'Traffic Light System'. The system came from researchers at Cerebral Palsy Alliance. It looks like this:

### Evidence Alert Traffic Light Grading System

Traffic Light	Evidence	GRADE Meaning
 <b>Green Light</b>	High-quality evidence indicates effectiveness	<b>Do It</b>
 <b>Positive Yellow Light</b>	Promising evidence suggests possible effectiveness OR no research exists with no evidence of harm	<b>Probably Do It</b>
 <b>Negative Yellow Light</b>	Possible evidence of ineffectiveness or harm	<b>Probably Don't Do It</b>
 <b>Red Light</b>	High-quality evidence indicates ineffectiveness or harm	<b>Don't Do It</b>

## Allied Health

### What's it all about?

Goal Directed Training (GDT) is a treatment approach where your child works towards a goal that is important to them. This may be everyday skills like doing up buttons, walking upstairs, eating with a knife and fork. You and your child choose a goal. You decide what is important to you.

Your child is active in making the movements associated with the goal. To achieve the goal the therapist might adjust the environment, the task, or something about the child.

Your child will practice their goal by doing real tasks and activities. For example, they will learn to use a knife and fork when they are having a meal.

Practice at home, at school, at work and in the community will help your child to use their skills in the places they need to.

Feedback from a therapist helps your child to know what they are doing well and what else they can try.



## How does it work?

We all have goals. But for an approach to really be goal directed, there are some key things that need to happen:

- The goal needs to be important and relevant to you and your child.
- Your child is active in making movements needed to achieve the goal. Your child practices the skill in real life activities. These are fun, enjoyable, and motivating so your child wants to practice!
- Practice needs to be high intensity. This means lots of repeated practice in a set period.
- Specific feedback will help your child know how they are doing a movement, if it is working, and what to try next.

The brain can change in response to input. The way your child practices a skill can change the neurons in the brain and how they work. This is called **experience-dependent plasticity**.



## How is it done?

There are usually four parts to GDT:

### Choose a Goal

What does your child want to work on?  
Is it important?  
What will be different if your child learns this skill?

### Assess

What can your child already do?  
What are the steps in the task?  
What's happening in the environment?

### Intervene

Implement ways to help your child learn their new skill:  
Teach Practice;  
Feedback; Check Progress.

### Evaluate

Measure changes.  
Has your child achieved their goal?  
What is different about what they can do now?

Home practice is an important part of GDT. It will help your child do the amount of practice needed to change the way their brain works.

### What does it help with?

Research shows that GDT works very well if your child wants to:

- Learn a new gross motor skill
- Learn to use their hands
- Learn a new self-care skill
- Achieve a functional goal.

It can also be used to support thinking, learning and communication.

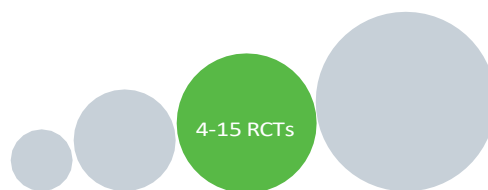
### How well does it work?

Goal Directed Training can be strongly recommended for children with cerebral palsy. Many researchers, clinicians and families would say 'Do it'.

Overall, the quality of research is high. This means mostly the right types of studies have been done in the right way.

There is a moderate amount of research available, which can guide good decisions.

#### Improve Gross Motor Skills

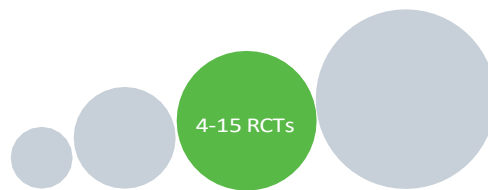


Moderate amount of low quality evidence



Do It

#### Improve Hand Function

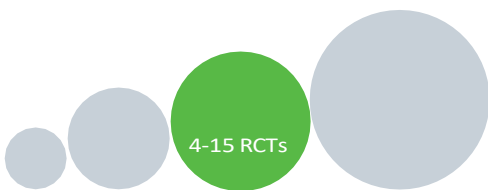


Moderate amount of high quality evidence



Do It

#### Improve Self-Care



Moderate amount of high quality evidence



Do It

## Who is it for?

Goal Directed Training is an approach for anyone with cerebral palsy. They can be any age or have any type of CP. They can have other conditions too.

A person just needs to have a task or activity they do in their everyday life. This is called a **Functional Goal**.

A functional goal may be learning to:

- Sit to play with toys
- Get dressed and undressed
- Cut food safely during a meal.

GDT can be done in different ways. It will depend on your child's goal, what they can do, the tasks they want to practice, and the environment.



Age	✓	✓	✓	✓	✓
Type of CP	✓	✓	✓	✓	
Topography	✓	✓	✓	✓	
Motor Function	✓	✓	✓	✓	✓
Hand Function	✓	✓	✓	✓	✓
Communication	✓	✓	✓	✓	✓
Cognition	✓	✓	✓	✓	✓

## Where is it done?

Goal Directed Training can be done in lots of places. Like

- A clinic
- At home
- At preschool, school or university
- At work
- In the community.

It is important to practice a goal in everyday settings. These are the places your child will usually be doing the task.

You can do GDT by Telepractice. This is good way for your child to practice in their own home. You can still work with a therapist if you choose.

## Who can help?

There are different people who can help with GDT. Like

- Physiotherapists (PT)
- Occupational Therapists (OT)
- Speech Pathologists (SP)
- Exercise Physiologists (EP)

A therapist will give you training on how to help your child with their practice. This is called coaching.

They may also give you a home program. Practicing at home is a great way to help your child get better at their chosen task.

**Talk to your team about what will be best for your child and your family.**



## How much is needed?

Studies show that your child will need between **14 to 25 hours** of Goal Directed Training for each goal they have.

So, if you need to ask for funding for your child's therapy, this is how much you should ask for.

A GDT program happens over several months. Lots of practice is needed during this time until the goal is reached.

Each child will need different amounts of time to reach their goals. Some will need more time, some less. It will depend on the goal, what they can do, and the environments they practice in.

More studies are needed to find out the best dose of GDT. It is also good to know that what your child practices is just as important as how much they practice.



14 to 25 hours



Studies show that your child will need between **14 to 25 hours** of goal directed training for each goal they have.

## What costs are involved?

There are fees to do Goal Directed Training. Usually these will be per hour or per consultation. They will vary from provider to provider.

There may also be a cost for:

- An assessment to see what your child can do
- A home program
- A report
- Therapist travel
- Equipment or assistive technology.

You will be told about these costs before the therapy starts.

In Australia, you may be able to get a health care rebate through Medicare. Your child may be eligible for funding from the National Disability Insurance Scheme (NDIS).

Goal Directed Training approaches fall under the Capacity Building Supports Budget. Your child may have goals under:



- Increased Social and Community Participation
- Improved Daily Living

## Are there similar treatments?

Goal Directed Training is a type of 'training based' intervention. This means a child actively works towards real-life tasks, activities and goals that are important to them.

You may also hear it called 'task focused' training or 'activity focused' training.

There are other similar training-based interventions that may also support individual goal achievement.

 [Green Light]	Home Program with Goal Directed Training
 [Green Light]	Action Observation Training
 [Green Light]	Environmental Enrichment
[Green Light]	Task-Specific Training
[Positive Yellow Light]	Context-Focused Training



## Should I do it?

Goal Directed Training is a 'Green Light' [GO] treatment. Research shows GDT helps children with cerebral palsy to:

- Learn motor skills
- Use their hands
- Learn self-care skills
- Reach their goals

The research is mostly high quality. There is a moderate amount of it. Good decisions can be made from this research.

GDT works well on its own. It can also be used with other treatments:

- A home program
- Botulinum Toxin to manage muscle tone
- Hydrotherapy
- Electrical stimulation
- Taping
- Transcranial direct current stimulation
- Virtual reality serious gaming

GDT is a strongly recommended treatment for children with cerebral palsy. Most researchers, clinicians and families would say 'Do it'.

Research evidence changes all the time. When choosing a treatment for your child, think about:



## Where can I find more information?

You can talk to your therapist or team

- Novak et al. State of the Evidence Traffic Lights 2019: Systematic Review of Interventions for Preventing and Treating Children with Cerebral Palsy. *Curr Neurol Neurosci Rep.* 2020 Feb 21;20(2):3. doi:10.1007/s11910-020-1022-z. PMID: 32086598; PMCID: PMC7035308.
- Mastos et al. Goal-directed training: linking theories of treatment to clinical practice for improved functional activities in daily life. *Clin Rehabil.* 2007 Jan;21(1):47-55. doi: 10.1177/0269215506073494.



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