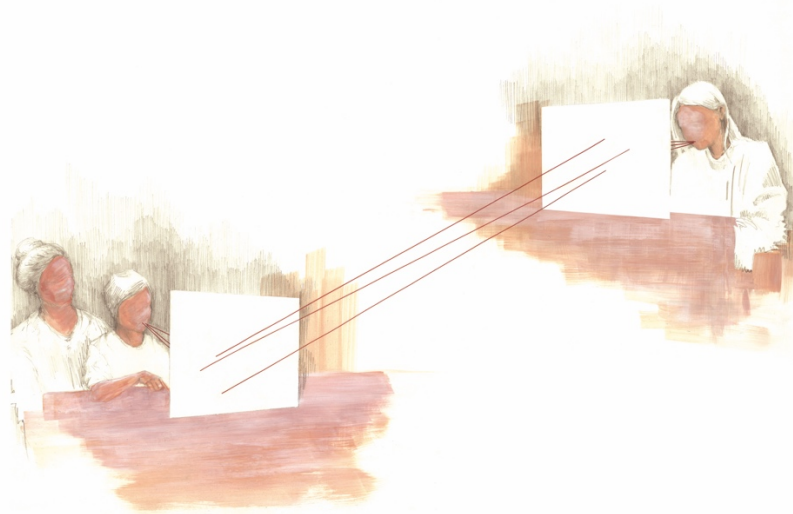


# Guideline: Telepractice for speech-language pathology and audiology with children ≤ 12 years

(2023)

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## Patient (client) input and consideration by the health provider (speech-language pathologist or audiologist)

Good medical practice guidelines provide directional support and guidance when making diagnostic or therapeutic decisions in family medicine. They summarise for the health provider what is scientifically the best policy for the average patient. There is also the context of the patient, who is an equal partner in making decisions. Therefore, the health provider clarifies the patient's question through appropriate communication and provides information on all aspects of possible policy options. So, it may happen that health provider and patient together responsibly and reasonably make a different best choice. For practical reasons, this principle is not repeated every time in the guidelines but is explicitly mentioned here.

This guideline was developed within the Evikey network with the financial support of the Federal Department of Health. [www.evikey.be](http://www.evikey.be).



**When quoting this guideline, use the following reference:**

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The development of the guideline has been realised by a guideline development group consisting of:

- Guideline coordinator: dr. Sabine Van Eerdenbrugh (Thomas More), SLP-audiologist
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- Content expert audiology: dr. Wendy D'haenens (Thomas More), audiologist



To ensure quality during the process and a broad support to the clinical field, 14 **stakeholders** were involved in the process. For the composition of this group, a balance was sought between Dutch-speaking and French-speaking stakeholders. This group consisted of people with different perspectives to the topic of this guideline, including speech-language pathologists, audiologists, a paediatrician, a teacher, a CLB-employee, and parents and children who received telepractice.

A group of 5 **experts** was involved to review the decisions taken by the guideline development group and stakeholders, to review the methodological protocol, to evaluate the step from evidence to recommendation (including the degree of certainty). These experts have substantive research knowledge and expertise relevant to the topic or to the development of clinical guidelines.

- dr. Tom Van Daele, researcher at Thomas More (E-Health), psychologist
- dr. Kurt Eggers, researcher at Thomas More and UGent, SLP
- Prof. dr. Nicolas Verhaert, ENT-specialist, KU Leuven/UZ Leuven
- Nancy Durieux, methodological expert EBP, ULiège
- Sofie De Smet, general practitioner, Child & Family

For the duration of the project, this consortium was assisted by external experts as part of an **advisory board**. This board consisted of members from different organisations as listed below:

- FOD volksgezondheid – SPF Santé Publique
  - RIZIV/INAMI
  - Evikey Network
  - Cebam –evaluation cell
  - EBPracticenet – implementation cell
  - KCE - Priorisation cell
  - WOREL
- 
- VVL
  - UPLF

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## Part I: Brief overview

### Transparent language use

Transparency is essential to understand the recommendations of this guideline correctly. It is therefore necessary to clarify frequently used terms in this guideline:

- Traditional intervention refers to the usual way assessment or treatment is organized in the clinical practice, at school, in a hospital or in any other setting with the child, the parent and therapist.
- Telepractice refers to the use of software or applications in speech-language therapy or audiology to connect therapist and client at the same time such as videoconferencing.
- If findings are only applicable to assessment, only to treatment or only to parent training, the terms tele-assessment, teletreatment or teletraining are used.
- 'Client' is used for client as well as for patient.
- 'Therapist' is used for SLP and audiologist.
- 'Parent' is used for parent, caregiver, guardian, or those who take care of the child.

### Recommendation labels

Detailed information about the GRADE system and the quality (letter A, B, C or D) and strength (label 1 or 2) of the recommendations is given in the methodological report of this guideline.

Value	Significance	Value	Significance
1A	Strong recommendation; High level of evidence	2A	Weak recommendation; High level of evidence
1B	Strong recommendation; Moderate level of evidence	2B	Weak recommendation; Moderate level of evidence
1C	Strong recommendation; Weak level of evidence	2C	Weak recommendation; Weak level of evidence
1D	Strong recommendation; Evidence based on consensus (Good Practice Point)	2D	Weak recommendation; Evidence based on consensus (Good Practice Point)

For the recommendations, the evidence comes from studies in which outcomes in a tele-assessment or teletreatment setting were compared with outcomes in a traditional setting. The supporting evidence is direct evidence. Direct evidence refers to scientific evidence that is found for the outcome and the population as is intended.

The evidence that supports the Good Practice Points (GPPs) is mostly indirect. Indirect refers to evidence from other sources than scientific evidence or from scientific evidence other than for the intended outcome and population (e.g., input from stakeholders or from the literature for a similar disorder).

### Practical advice

We listed the recommendations with a clear link to the evidence and we considered the feasibility of the recommendations in the Belgian health care context based on the input of colleagues. Therapists need to decide for themselves if a recommendation can be implemented in their own clinical context, and if telepractice is the better fit for a particular child and family that they see. For example, a first encounter with a child and parent(s) may be better in real-life.

## Overview

### Tele-assessment: Can telepractice be proposed as an accurate alternative for assessment?

1. Only propose tele-assessment as an option if you consider it safe and feasible. **(GPP)**
2. If it enables you to increase compliance and interaction, propose tele-assessment as an accurate alternative for traditional
  - (breast) feeding and swallowing assessment in children (1 month-7 years). **(1B)**
  - cochlear implant fitting in children (2-12 years). **(1C)**
  - hearing screening with auditory brainstem response or otoacoustic emissions in infants (0-45 days). **(2B)**
  - hearing screening with pure tone audiometry or otoacoustic emissions in children (5-9 years). **(2B)**
  - language assessment in children (5-12 years) also those with Autism Spectrum Disorder. **(2B)**
  - reading and spelling assessment in children (6-12 years) also those with Attention Deficit Hyperactive Disorder. **(2B)**
  - assessment of speech sounds in children (4-9 years) but only if the child is intelligible and the mouth can be observed accurately. **(GPP)**

*It is likely that adjacent areas, such as dyscalculia, that are not covered by this guideline, can also be addressed with a similar approach.*

*Comparative studies between tele-assessment and traditional assessment indicate in most cases similar results.*

### Teletreatment: Can telepractice be proposed as an effective alternative for treatment?

3. If it enables you to increase compliance, interaction and adherence, propose teletraining as an effective alternative to
  - educate or train parents in treatment for their child (0-12 years). **(1A)**

*Evidence is available for the management of hearing aids, education about hearing problems, training in treatment of language disorders, communication in Autism Spectrum Disorders and Other Developmental Disorders, stuttering and speech sound disorders.*

*Weak evidence shows that treatment duration is shorter or equal than with traditional parent training or education about their child's treatment. Evidence is available for the management of hearing aids, education about hearing problems and training in treatment of stuttering.*

*Moderate evidence shows that treatment adherence is equal or better than with traditional parent training or education about their child's treatment. Evidence is available for the management of hearing aids, education about hearing problems and communication training in Autism Spectrum Disorders and Other Developmental Disorders.*

- treat children (4-12 years). **(2A)**

*Evidence is available for the treatment of language, reading and speech sound disorders.*

*Comparative studies between parental teletraining and traditional training indicate in all studies similar results. Comparative studies between child teletreatment and traditional treatment indicate mixed results.*

### Teletreatment: How to establish a good adherence to teletreatment?

4. Combine or add telepractice to traditional intervention, considering the preference of the parents, children and you as therapist. **(GPP)**
5. Propose telepractice if it is a better fit for a child and family. **(GPP)**

*Weak evidence shows that parents are more actively involved during telepractice sessions which increases treatment adherence. Evidence also shows that older children become more autonomous and experienced with technical equipment and this can increase adherence. Finally, weak evidence suggests that the quality of life is the same in parents who were educated or trained through telepractice as those through traditional education or training. Evidence for the latter is available for training in treatment of communication in Autism Spectrum Disorders and other developmental disorders*

**Telepractice: How to establish a good interaction between child, parent and therapist during telepractice?**

6. Evaluate the quality of the relationship and interaction with the child in telepractice not only through observation but also through child and parent report. **(GPP)**
7. Make sure a parent is available to help the child and to communicate with you. **(GPP)**
8. Do not to use telepractice for interventions that require active child participation of:
  - a. children with severe physical disabilities, as they have difficulty using technology. **(GPP)**
  - b. children with severe communication difficulties, when they have difficulty communicating through a screen. **(GPP)**
9. Evaluate the child's, the parent's and your own motivation and satisfaction about the use of telepractice after each session. **(GPP)**

*Weak evidence shows that therapists, families and others involved can be doubtful at first when starting with telepractice. Usually everyone become very motivated to use this delivery format.*



## Part II : Recommendations

### Definition of telepractice

**Telepractice** is “the application of telecommunications technology to deliver speech language pathology and audiology professional services at a distance by linking clinician to client or clinician to clinician for assessment, intervention, and/or consultation” (ASHA, 2020, §1). The American Speech-Language-Hearing Association (ASHA) indicates that the term telepractice is preferred over the terms telemedicine or telehealth, as the latter ones are limited to health specific care settings. Other terms include telerehabilitation, teleaudiology, telespeech or speech teletherapy.

The different types of telepractice can be described as following (ASHA, §6):

- Synchronous (client interactive)—services are conducted with interactive audio and video connection in real time to create an in-person experience similar to that achieved in a traditional encounter. Synchronous services may connect a client or group of clients with a clinician, or they may include consultation between a clinician and a specialist.
- Asynchronous (store-and-forward)—images or data are captured and transmitted (i.e., stored and forwarded) for viewing or interpretation by a professional. Examples include transmission of voice clips, audiologic testing results, or outcomes of independent client practice.
- Hybrid—applications of telepractice that include combinations of synchronous, asynchronous, and/or in-person services.

This guideline is limited to **synchronous and hybrid services**. Asynchronous services are beyond the scope of the current guideline.

### Context of the use of telepractice in Belgium

Before the COVID-19 pandemic, telepractice was mainly delivered in large countries such as the United States of America, Canada and Australia to bridge the distance between the therapist and people who needed care in outback locations. COVID-19 forced professionals in the entire world to deliver telepractice to guarantee the continuation of care.

In 2020, Speech-Language Pathologists (SLPs) and audiologists were suddenly forced to deliver telepractice with their clients due to the lockdown. The Belgian government approved reimbursement of telepractice for ongoing interventions in speech-language pathology on 14/03/2020 for the entire COVID-19 crisis under the same conditions as traditional intervention. At first, tele-assessment was not reimbursed. Now, also tele-assessment is reimbursed. For reimbursement, therapists in a private practice are requested to add the pseudocode 792433 behind the code of the assessment or treatment they provide (RIZIV/INAMI, 14/04/2022). Reimbursement of telepractice was prolonged after the COVID-19 crisis and is still applicable to date (RIZIV/INAMI, 14/04/2022), presumably because of the important benefits and opportunities of telepractice. Telepractice for outpatient revalidation is also reimbursed. Therapists use separate codes for telepractice in this context (Agentschap Zorg & Gezondheid, Omzendbrief 28/06/2022).

The sudden necessity to shift from traditional face-to-face care to telepractice for most client populations has been challenging for many SLPs and audiologists. Belgian therapists seemed insufficiently prepared to deliver telepractice. However, it appears that these therapists quickly adapted to delivering care through telepractice. About half (47,5%) of the therapists delivered treatment through videoconferencing immediately after the lockdown versus 87,6% six weeks later (Mostaert et al., 2021). More and more, therapists resumed treatment delivery during the lockdown and did this through telepractice.

As soon as personal contact for therapists was allowed again under certain conditions, they seemed to shift back to traditional intervention (Boey & Lefevre, 2021) despite the strict conditions such as wearing a mouth mask,

using a protection shield in contact with the client and using disinfectant for hands, table, resources and for everything that was touched during the session. The sudden reimbursement of telepractice for speech-language pathology during COVID-19 can potentially have given the impression that it was only a temporary measure, an interpretation that might have impacted the decision to move back to traditional service delivery. On the other hand, this choice might have been impacted by the therapists' lack of knowledge on how to overcome certain obstacles to successfully implement telepractice (Van Eerdenbrugh et al., 2022).

Telepractice was initially mainly investigated as a possible format in countries with large distances between client and therapist. Currently, however, also denser populated countries implement telepractice as an alternative to standard practice. This is a development resulting from the COVID-19 pandemic. A recent scoping review, for example, claimed that telepractice to deliver care by SLPs and audiologists has now been accepted in speech-language pathology and audiology as the new health care delivery model with multiple advantages and disadvantages (Gugliani et al., 2023).

Teletreatment can be delivered either exclusively in telepractice format, or in a hybrid format. That is, teletreatment combined with traditional face-to-face treatment. Telepractice seems optimal for parent training. The implementation of telepractice is supported by families reporting that telepractice is easier to schedule, saving transportation costs and time (e.g., Grant et al., 2022; Jacups & Kinchin, 2021; Law et al., 2021; McCarthy et al., 2019; McGill et al., 2019; Molini-Avejonas et al., 2015). Gugliani et al. (2023) summarise it as a delivery format with 5Cs: easy-to-access care, increased comfort, increased convenience, reduced cost and higher confidentiality. On the other hand, technological issues can accompany the delivery of telepractice sessions (for example, unstable internet connection or audio delay which impacts on the intelligibility), additional technical devices may be necessary, and therapists are often concerned about the interaction with the child if the child is not with them.

Under some circumstances telepractice can be an efficient and feasible way of delivering speech, language, swallowing and hearing services (assessment, parent training or treatment with the child). Therapists can benefit from clear guidance in the decision to whom and when telepractice can be offered as an effective alternative to traditional intervention.

## **Purpose of the guideline**

The main aim of this guideline is to help speech-language pathologists (SLPs) and audiologists decide for whom and when they can offer telepractice as a feasible alternative to traditional intervention, and to help them implement it.

This guideline lists the recommendations about when and how (not) to implement telepractice in an accurate and efficient way. A decision tree can help SLPs or audiologists decide if telepractice is a commendable alternative to traditional intervention for a child and his/her family. The recommendations with a grade are based on direct Evidence in the literature; the recommendations that are Good Practice Points (GGP) are based on indirect findings from the literature and on input from the stakeholders, or weak direct evidence.

Therapists are expected to have acquired the necessary and specific skills for administering assessment and delivering treatment in the traditional way before they can apply telepractice. SLPs and audiologists won't find specific instructions in this guideline on how to perform an assessment or deliver a specific treatment, or answers about how many sessions a certain treatment requires, or practical tools such as instruction videos about software platforms in this guideline. It was not feasible to develop this in this guideline. Practical tools will be developed in a consecutive implementation study and will be made available on <https://thomasmore.be/en/telelogopedie-teleaudiologie>. Technological tools and digital tests and treatment resources were not listed in this guideline for the same reason as they are not included in other guideline about telepractice (e.g., Audiology Australia, 2022): these change so rapidly that examples would be outdated too quickly.

## Actions for policymakers

During this development process, we collected information about the barriers for telepractice implementation. In the methodological report of this guideline, details are given.

Belgian policymakers could address important barriers by the actions listed here:

- Clarify reimbursement rules for speech-language pathology. At this moment, many SLPs think that only teletreatment is reimbursed, and not tele-assessment. The RIZIV/INAMI, however, currently reimburses tele-assessment and teletreatment.
- Apply the same reimbursement rules for audiologists. At this moment, there is no reimbursement for teleaudiology, only if it is proposed in outpatient services by an audiologist-SLP.
- Provide advice or recommend secure and flexible clinical videoconferencing platforms where therapist and family feel safe to share personal information.

These actions will guarantee better access to and quality of care for all Belgian inhabitants.

## Clinical question

The **central question** of this guideline is: How can telepractice be implemented efficiently and in an optimal way with children  $\leq 12$  years?

**Population (Po):** Children  $\leq 12$  years of age

**Intervention (I):** Telepractice. This guideline is limited to synchronous services or hybrid services that combine synchronous and in-person services. Synchronous telepractice refers mainly to the use of videoconferencing applications (webcam) but also includes the use of telephone.

**Professions (Pr):** SLPs or Audiologists

**Outcome (O):** Efficiency of telepractice and practical implementation (clients)

**Health care settings (H):** Private practice, schools, revalidation centres and hospital settings for outpatient services (not: in-hospital settings for hospitalised patients)

The central clinical question was subdivided into **four subquestions**:

**Subquestion 1:** Can telepractice be proposed as an accurate alternative for assessment?

**Subquestion 2.1:** Can telepractice be proposed as an effective alternative for treatment?

**Subquestion 2.2:** How to establish a good adherence to teletreatment?

For these clinical questions, the populations (children and parents/families and disorder) for whom telepractice is suitable are specified.

**Subquestion 3:** How to establish a good interaction between child, parent and therapist during telepractice?

## Target population

The target population are **children up to 12 years with speech, language, swallowing or hearing disorders and their parents**. An non-exhaustive list of disorders is given below.

Speech disorders include voice disorders, stuttering, oro-myofunctional disorders and speech sound disorders (e.g., phonetic disorders), possibly but not necessarily as a result of physical problems such as cleft palate; dyspraxia, dysarthria, childhood apraxia of speech, ...

Language disorders include developmental language disorder, learning disorders including dyslexia and dyscalculie, phonological disorders, auditory processing disorders; possibly but not necessarily as a comorbidity of Attention Deficit Hyperactivity Disorder, Autisme Spectrum Disorders, Down Syndrome, ...

Swallowing disorders include breastfeeding disorders and other swallowing disorders.

Hearing disorders include neurosensory, conductive and mixed hearing loss, tinnitus and auditory neuropathy spectrum disorder.

## Guideline users

This guideline is intended to be used primarily by **SLPs and audiologists** who assess and treat children  $\leq 12$  years of age for their speech, language, swallowing or hearing disorder. Other health professionals such as occupational therapists, psychologists, physiotherapists, and teachers and parents can also find useful information in this guideline. The guideline will help professionals to understand how telepractice can be implemented as a worthy alternative to deliver speech-language pathology or audiology intervention efficiently and optimally in the daily practice with children  $\leq 12$  years.

Telepractice should not be limited to situations where it is the only solution to guarantee continuation of care, for example when parents are not able to visit the SLP or audiologist or when a child is chronically ill. Telepractice should be considered as **an alternative to traditional care** when it is likely to be a good fit for the child, family, and therapist or when families express a preference for telepractice.

## Guideline development method

This guideline is developed according to the **de novo procedure**. That is, systematic reviews and individual studies underpin the recommendations. The choice for a *de novo* procedure was made because a guideline about telepractice for children did not exist at the time of development (WOREL, 2021).

We followed the requirements as outlined in the PRISMA checklist (Equator Network, 2020) for the **literature search process**. Appraisal of the studies was performed by two independent researchers with the JBI appraisal tools (n.d.). Deciding on the quality of the evidence and assigning the strength of the recommendation occurred according to the GRADE methodology (BMJ Best Practice, n.d.). A group of stakeholders supported the guideline development group in this process.

The **recommendations** were formulated by the guideline development group and approved by the stakeholders. More specific details of the methodological process are described further in this guideline.

A group of stakeholders was involved to discuss how tele-assessments and teletreatment can be implemented in the Belgian health care context under the current reimbursement scheme. Among them two children of 9 and 10 years, and parents of young children. Younger children are not capable of answering questions reliably about this topic. For this reason, we did not include them. The parents asked for their child's input and reported it back to the guideline development group. The stakeholders' input is summarised after the literature summary of each recommendation in the methodological report.

Each recommendation, its underlying **evidence**, and its **implementation** are discussed. The recommendations' implementation includes its benefits, challenges, feasibility, professional and client preferences and economic considerations, and is based on the input of the stakeholders and findings from the literature. The evidence is given in literature summaries for each individual study. This was done to avoid any interpretation and to guarantee a direct link with the findings of the underlying evidence. A brief synthesis of the literature was also added to the methodological report.