

## DEVELOPMENTAL LANGUAGE DISORDER (DLD) FACT SHEET

### Version 3 (Updated March, 2021)

DLD is a significant difficulty learning, understanding, and using spoken language.

DLD is a relatively NEW term (2017) for a condition we have known about for hundreds of years. This condition goes by many names: expressive-receptive language disorder, specific language impairment, speech-language impairment, and language delay among them. The current, consensus term in the English-speaking world is Developmental Language Disorder or DLD (Bishop et al., 2016; 2017).

### Five things you need to know about DLD

1. DLD is a hidden disability. People with DLD make more errors or use simpler sentences or even have trouble organizing a conversation. These problems are not always obvious to the non-specialist.
2. DLD emerges in early childhood but persists into adulthood.
3. DLD affects people around the world, no matter the language spoken.
4. DLD is common. In one study, 1 in 14 children demonstrated symptoms of DLD.
5. DLD matters. It can affect social and emotional well-being as well as success at school and work.

### DLD: Causes

- **Genetics plus environmental risks:** Mutations on multiple genes put a person at high-risk for DLD. Scientists have not determined all the genes that contribute to the problem or in what combination. Genes exert their influence in context. That means that people at genetic risk might have a greater or lesser likelihood of having DLD in certain environments (Spinith et al., 2004). Let's imagine two children with identically high genetic risk for DLD. If one is born full-term and the other is born prematurely, the premature baby, having spent less time in the environment of the womb, has the higher risk (Sansavini et al., 2010). Keep in mind that there is no single cause and the 'genetic + environment' risks refer to chance, not certainty. Two take-aways are important: 1) We have more to learn about what causes DLD and 2) the belief that DLD is caused by parents who don't talk or read enough to their children is not true.
- **Neurobiology:** DLD, like all neurodevelopmental conditions, involves differences in brain development. These differences are subtle. They are unlikely to show up on a routine brain scan. Some of the differences involve the proportions of grey matter and the size of different brain regions. The brain regions may include cortical areas in the frontal and temporal lobes and the striatal area of the basal ganglia (Krishnan et al., 2016; Mayes et al., 2015). Scientists have a lot to learn about how the brain develops differently in children who have DLD.

### DLD: Associated difficulties

- **Relationship to other conditions:** DLD occurs alongside other conditions like ADHD, Dyslexia, or Learning Disabilities more often than we would expect by chance (Young et al., 2002). People with DLD often have subtle weakness in motor development as well (Cheng et al., 2009). DLD and Autism Spectrum Disorder are two different conditions, but social language may be an issue in both. One consistent difference is that restricted repetitive behaviors, interests, and activities are characteristic of Autism but not DLD.

- **Mental Health:** Children with DLD are more likely than their peers with typical language development to demonstrate internalizing behaviors like anxiety and depression, as well as externalizing behaviors like aggression. The rate of problem behaviors tends to increase as the child grows older (Curtis et al., 2018). Children with DLD who have a hopeful outlook, a strong sense of agency, and positive relationships with peers and adults may demonstrate resilience to mental health problems (Lyons et al., 2018).

#### **DLD: outcomes**

- **Literacy and academic attainment:** Although DLD affects spoken language, people with DLD often have difficulty with written language—reading, spelling, and writing—as well (Joye et al., 2019; Simkin, & Conti-Ramsden, 2006). A good foundation of spoken language supports children as they learn to read and write, so naturally, children with DLD are at risk for written language problems.
- **Social relationships:** Language is critical to establishing relationships with other people. Children with DLD tend to have more difficulties with peers than other children (Forrest et al., 2020). In some reports, they are more likely to be victimized by others (Rennecke et al., 2019), but those who have a good understanding of their own emotions are less likely to be victimized (van den Bedem et al., 2018).
- **Employment:** Adults with a history of DLD tend to have less skilled employment and less full-time employment than other adults. That said, some adults with DLD have good educational and professional outcomes (Conti-Ramsden et al., 2018). Currently, too many students with DLD are not getting the support they need to achieve their best at school and work (Dockrell et al., 2019).

#### **DLD: Services**

- **Diagnosis:** DLD is a diagnosis based on behaviors, not brain scans or blood tests. The primary behaviors to consider are how well the person learns, understands, and uses spoken and written language. Typically, the diagnostician administers a battery of language tests and compares the scores on those tests to scores we would expect given the test-takers age and, in some cases, sex. It is critical that the functional impact of any language problems is also considered. To do that, the diagnostician will observe social interactions, consider academic or work-place performance, and interview the individual or the family. A combination of low performance on the tests and evidence that the low language abilities are causing problems in everyday life can lead to a diagnosis of DLD (Bishop et al., 2016). Because other conditions can co-occur with DLD, it may be necessary to assess domains other than language as well, like motor skills and attention.
- **Intervention:** For interventions to be effective, they must be of high quality and of sufficient duration - an increasing number of promising ones are being developed (Law et al 2015). Interventions provided by speech-language therapists in collaboration with teachers or teaching assistants can improve skills like vocabulary, narrative discourse, and phonological awareness (Archibald, 2017). Children with severe DLD can benefit from more individualized intervention delivered by a speech-language therapist (Ebbels et al., 2019).

#### **DLD: Public recognition and the RADLD campaign**

- **Need for improved public recognition of DLD.** There is poor public awareness of DLD, reflected also in low rates of clinical identification and research on the condition (McGregor, 2020). The members of the international RADLD campaign work to increase awareness of DLD via a YouTube channel, website, and social media as well as a yearly DLD Awareness Day.

## References

- Archibald, L. M. (2017). SLP-educator classroom collaboration: A review to inform reason-based practice. *Autism & Developmental Language Impairments*, 2, 2396941516680369.
- Bishop, D. V. M., Snowling, M. J., Thompson, P. A., Greenhalgh, T., & The CATALISE Consortium. (2016). [CATALISE: a multinational and multidisciplinary Delphi consensus study](#). Identifying language impairments in children. *PLOS One*, 11(7), e0158753. doi:10.1371/journal.pone.0158753
- Bishop, D. V. M., Snowling, M. J., Thompson, P. A., Greenhalgh, T., & The CATALISE Consortium. (2017). [Phase 2 of CATALISE: a multinational and multidisciplinary Delphi consensus study of problems with language development: Terminology](#). *Journal of Child Psychology & Psychiatry*. doi:10.1371/journal.pone.0158753
- Cheng, H. C., Chen, H. Y., Tsai, C. L., Chen, Y. J., & Cherng, R. J. (2009). Comorbidity of motor and language impairments in preschool children of Taiwan. *Research in developmental disabilities*, 30(5), 1054-1061.
- Conti - Ramsden, G., Durkin, K., Toseeb, U., Botting, N., & Pickles, A. (2018). Education and employment outcomes of young adults with a history of developmental language disorder. *International journal of language & communication disorders*, 53(2), 237-255.
- Curtis, P. R., Frey, J. R., Watson, C. D., Hampton, L. H., & Roberts, M. Y. (2018). Language disorders and problem behaviors: A meta-analysis. *Pediatrics*, 142(2).
- Dockrell, J. E., Ricketts, J., Palikara, O., Charman, T., & Lindsay, G. A. (2019, April). What drives educational support for children with developmental language disorder or autism spectrum disorder: Needs, or diagnostic category?. In *Frontiers in Education* (Vol. 4, p. 29). Frontiers.
- Ebbels, S. H., McCartney, E., Slonims, V., Dockrell, J. E., & Norbury, C. F. (2019). Evidence - based pathways to intervention for children with language disorders. *International journal of language & communication disorders*, 54(1), 3-19.
- Forrest, C. L., Gibson, J. L., Halligan, S. L., & St Clair, M. C. (2020). A cross-lagged analysis of emotion regulation, peer problems, and emotional problems in children with and without early language difficulties: Evidence from the millennium cohort study. *Journal of Speech, Language, and Hearing Research*, 63(4), 1227-1239.
- Joye, N., Broc, L., Olive, T., & Dockrell, J. (2019). Spelling performance in children with developmental language disorder: A meta-analysis across European languages. *Scientific Studies of Reading*, 23(2), 129-160.
- Krishnan, S., Watkins, K. E., & Bishop, D. V. (2016). Neurobiological basis of language learning difficulties. *Trends in cognitive sciences*, 20(9), 701-714.
- Law, Roulstone, & Lindsay, 2015 Integrating external evidence of intervention effectiveness with both practice and the parent perspective: development of 'What Works' for speech, language and communication needs. *Developmental Medicine & Child Neurology* 2015, 57(3), 223-228.
- Lyons, R., & Roulstone, S. (2018). Well-being and resilience in children with speech and language disorders. *Journal of Speech, Language, and Hearing Research*, 61(2), 324-344.
- Mayes, A. K., Reilly, S., & Morgan, A. T. (2015). Neural correlates of childhood language disorder: a systematic review. *Developmental Medicine & Child Neurology*, 57(8), 706-717.
- McGregor, K. K. (2020). How We Fail Children With Developmental Language Disorder. *Language, Speech, and Hearing Services in Schools*, 51(4), 981-992.

- Norbury, C. F., Gooch, D., Wray, C., Baird, G., Charman, T., Simonoff, E., ... Pickles, A. (2016). The impact of nonverbal ability on prevalence and clinical presentation of language disorder: evidence from a population study. *Journal of Child Psychology and Psychiatry*. <https://doi.org/10.1111/jcpp.12573>
- Rennecke, L., Ronniger, P., Petermann, F., & Melzer, J. (2019). Developmental language disorder: Maternal stress level and behavioural difficulties of children with expressive and mixed receptive-expressive DLD. *Journal of communication disorders*, *80*, 1-10.
- Sansavini, A., Guarini, A., Justice, L. M., Savini, S., Broccoli, S., Alessandrini, R., & Faldella, G. (2010). Does preterm birth increase a child's risk for language impairment?. *Early human development*, *86*(12), 765-772.
- Simkin, Z., & Conti-Ramsden, G. (2006). Evidence of reading difficulty in subgroups of children with specific language impairment. *Child language teaching and therapy*, *22*(3), 315-331.
- Spinath, F. M., Price, T. S., Dale, P. S., & Plomin, R. (2004). The genetic and environmental origins of language disability and ability. *Child Development*, *75*(2), 445-454.
- van den Bedem, N. P., Dockrell, J. E., van Alphen, P. M., Kalicharan, S. V., & Rieffe, C. (2018). Victimization, bullying, and emotional competence: Longitudinal associations in (pre) adolescents with and without developmental language disorder. *Journal of speech, language, and hearing research*, *61*(8), 2028-2044.
- Young, A. R., Beitchman, J. H., Johnson, C., Douglas, L., Atkinson, L., Escobar, M., & Wilson, B. (2002). Young adult academic outcomes in a longitudinal sample of early identified language impaired and control children. *Journal of Child Psychology and Psychiatry*, *43*(5), 635-645.