

Oppositional Defiant Disorder (ODD): Information for Primary Care



Image credit: Adobe Stock

Sommaire : When faced with a child with oppositional defiant behaviours, parents often turn to their primary care provider. Oppositional defiant behaviours can be a normal part of a child's development, and determining what is normal from dysfunctional can sometimes be difficult within the typical 15-min. appointment. It is important to identify and deal with any contributing factors to the oppositional behaviour, such as a child who is disconnected from parents, parents with unrealistic expectations for their child, or conditions such as attention deficit hyperactivity disorder (ADHD), mood/anxiety, or learning difficulties. Management is primarily through non-medication strategies such as parent education, which teaches parents different ways to work with their child to manage their child's behaviours.

Case

J. is a 8-yo boy brought to see you by his mother for concerns about "bad behaviour" that has worsened over the past year.

At home, he has difficulty getting along with his 4-yo younger sibling, refuses to follow directions from his parents, and has temper tantrums when he does not get his way.

His mother thought it was "just a phase" until recently when he hit a classmate at school with a water bottle and blamed the incident on another child, and the school is threatening to expel him

His mother has tried her best to manage the behaviours by having firmer consequences, and taking away more and more of the child's privileges such as television, desserts, etc; however, mother reports, "There's nothing more I can take away!"

Mother is feeling frustrated and overwhelmed: "I can't take it anymore!"

What are you going to do?

Introduction

Children and youth do well if they can.

As a social species, most children and youth want to meet the daily expectations placed on them at home and outside home (e.g. daycare, school, work).

If they struggle with meeting those external demands and expectations, then it means that there is a barrier -- either they lack the capacity or skills to meet those demands, or there is some other barrier.

Classic approaches towards oppositional defiance were more based on behavioural theory, with children/youth being punished when expectations were not met. The problem with this however, is that it does not necessarily help children/youth with the underlying skills deficit. Worse, it can increase stress and worsen the relationship between children/youth and caregivers.

The good news is that by better understanding the underlying 'lagging skills' or barriers, there are better ways to help overcome oppositional defiance and help them in life.

Epidemiology of Oppositional Defiant Disorder

Prevalence ~3.3% (APA, 2013).

Males > Females (1.4:1) in preadolescence (APA, 2013).

Symptoms typically begin pre-school or early elementary school (Hamilton, 2008).

Red Flags

Especially at certain developmental stages, it is normal for all children/youth to want to be independent, and exert their own will and autonomy such as with:

- Toddlers (aged 2), i.e. "terrible two's"
- Teenagers (aged 12-18)

Consider further exploration in a child/youth who presents with:

- Uncooperative, defiant, and hostile behaviour
- Temper tantrums
- Arguing, anger, and resentment
- Questioning or refusal to comply with rules or requests
- Deliberate attempts to upset or annoy others
- Spiteful and revenge seeking attitude
- Blaming others for misbehaviour or mistakes
- School or academic problems

What Causes Oppositional/Defiant Behaviour?

There are many factors which can contribute to a child's oppositional/defiant behaviours, and most cases are multifactorial:

- Child factors
 - The child's brain may be wired in a way so that can make it more challenging for the child to meet expectations by caregivers
 - For example, children with:
 - Temperamental differences such as the "highly spirited" or "strong-willed child", with high emotional reactivity, low frustration tolerance
 - Executive skills issues (e.g. low frustration tolerance, impulsivity, etc.)
 - Attention deficit hyperactivity disorder (ADHD),
 - Autism spectrum disorder (ASD),
 - Sensory processing issues
 - Other brain conditions or learning issues.
- Environmental / Relationship (i.e. attachment) factors such as:
 - Children and youth that do not feel secure in their relationships with parents are more likely to have oppositional behaviours
 - Parental expectations that are unrealistic for the child's developmental level

- For example, parents might be parenting in a way that is:
 - Authoritarian (i.e. excessive rules/limits and without emotional warmth) ;
 - Indulgent / permissive (i.e. parents have emotional warmth, but lack the ability to set appropriate rules/limits) ;
 - Disconnected (i.e. lack of rules and lack of emotional warmth)
- Special situations such as
 - A child with past exposure to abuse, violence, trauma, or neglect
 - A child whose parents may have been overwhelmed or absent emotionally
 - An adopted child
- Societal factors such as
 - Poverty and economic pressures, e.g. more and more parents need to work longer and longer hours, which means less time for children/youth to attach to their caregivers (Kershaw, 2014).

Screening Questions

Consider the following questions to help screen for behavioural / emotional functioning (Charach et al., 2017):

1. Do you (or any other caregiver) have difficulties encouraging your child to do as you ask?
2. Has a teacher ever mentioned concerns about your child's readiness to start school?
3. Do you have any concerns about your child's ability to communicate or learn new skills?
4. Do you have any concerns about how your child gets along with other children at home or in the community?
5. Do you have any other concerns about your child's emotions, behaviour or social functioning?

History / Interviewing Tips

Chief complaint	Parents <ul style="list-style-type: none"> • What brings you here today? Child <ul style="list-style-type: none"> • I'm guessing it may not have been your idea to come here, but I'm grateful that you came. I want to hear your point of view... How have things been like for you?
Identify problem behaviour	Parents <ul style="list-style-type: none"> • What are the behaviours that you are concerned about? • At what age did these behaviours start? • Before these problems started, what were things like? • Have you identified any triggers for the behaviour? • What are the expectations for the child's behaviour? Do you feel these are reasonable for the child's developmental stage? • How does the behaviour compare in different settings? E.g. home, school? • What strategies have been tried to deal with the behaviour? Have any been successful? Child/youth <ul style="list-style-type: none"> • What is your perspective on this? • From your perspective, I'm guessing it must seem like your parents are nagging or upset at you. What do you wish could be different?
Angry / Irritable mood	Parents <ul style="list-style-type: none"> • Is your child easily annoyed? Does your child easily lose his/her temper? • Do you find your child is often angry or resentful? Child <ul style="list-style-type: none"> • When you get mad, do you lose your temper? • Do you find it hard to control your temper?

Argumentative / Defiant behaviour	<p>Parents</p> <ul style="list-style-type: none"> • Does your child often argue with you or other adults? • Does your child deliberately annoy others? • Does your child have a hard time seeing other people's perspective? <p>Child</p> <ul style="list-style-type: none"> • When you don't get your way, what do you do?
Other	<p>Are you able to spend 1:1 time with your child? How much screen time does your child get in a day? Ask about SIGECAPS, e.g. Any problems with Sleep? Loss of interests? Problems with energy? Problems with concentration?</p>

DSM-5 Diagnostic Criteria for Oppositional Defiant Disorder (ODD)

Diagnostic Criteria

A. Pattern of angry/irritable mood, argumentative/defiant behavior, or vindictiveness lasting at least 6 months, as evidenced by ≥ 4 symptoms from any category, during interactions with ≥ 1 person (who is not a sibling):

Angry/Irritable:

1. Often loses temper
2. Often touchy or easily annoyed
3. Often angry and resentful

Argumentative/Defiant Behaviour

4. Often argues with authority figures (with adults if children)
5. Often actively defies or refuses to comply with requests from authority figures or with rules
6. Often deliberately annoys others
7. Often blames others for his or her mistakes or misbehaviour

Vindictiveness

8. Has been spiteful or vindictive $\geq 2x$ in past 6 months

Distinguish from normal by persistence and frequency

- If < 5 years old = most days for ≥ 6 months
- If ≥ 5 years = at least weekly for ≥ 6 months
- Also consider frequency and intensity given developmental level, gender, and culture

B. The disturbance in behaviour is associated with distress in the individual or others in immediate social context (family, peer group, work colleagues), or it impacts negatively on social, educational, occupational, or other important areas of functioning

C. The behaviours do not occur exclusively during the course of a psychotic, substance use, depressive, or bipolar disorder. Also, the criteria are not met for disruptive mood dysregulation disorder

Specify Current Severity:

- Mild: Symptoms mainly at 1 setting (i.e. usually at home)
- Moderate: ≥ 2 settings (e.g. home and school)
- Severe: ≥ 3 settings (e.g. home, school and in public)

Differences between DSM-IV and DSM-5

- In the DSM-5, oppositional defiant disorder (ODD) is now grouped under the chapter "Disruptive, impulse-control, and conduct disorders"; previously this chapter was named "Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence".

- Criteria have been refined in DSM-5 to better reflect both the emotional and behavioural nature of the disorder.
- Symptoms grouped into 3 categories (eg. angry/irritable mood, argumentative/defiant behaviour, and vindictiveness).
- A note to help guide differentiating normal development from symptomatic ODD, as well as a severity rating, have been added.
- The criterion to exclude conduct disorder has also been removed (APA, 2013)

Differential Diagnosis (DDx) and Comorbid Conditions

- There are many situations and conditions that can contribute to a child's inability to behave and meet expectations.
- Whether or not they are the root cause, or one of many contributing factors, addressing these may help the child's brain and thus help the oppositional defiant symptoms.

Condition	History / Screening Questions
Normal behaviours	Temper tantrums are common in toddlers and preschool aged children Oppositionality is common in teenagers
Stressors	Stressful family situation? E.g. death, marriage, divorce, birth of sibling Stressful environment? E.g. poverty, new home or school, bully at school Concern for neglect or abuse? Concern for parental mental health disorder (ADHD, mood disorder, and substance abuse)?
Attention-deficit/hyperactivity disorder (ADHD)	Does your child have troubles paying attention at school/home? Does your child not seem to listen when spoken to directly? Do they often not follow through on instructions and fail to finish tasks? Any problems sitting still or fidgeting?
Conduct disorder	Has your child had problems with threatening others? Has your child had troubles with fighting with others? Does your child skip school? Stay out late without permission? Has your child stolen things with value? Has your child destroyed someone's property? Set fires?
Developmental conditions	
Learning / Language disorders	Does your child have lower academic achievement than expected for their intellectual potential? Or much lower grades in a specific subject, compared to others e.g. passing English but failing math?
Intellectual disability	Is your child having problems in various developmental domains such as speech/language?
Autism spectrum disorder	Consider using M-CHAT-R screening questions
Developmental coordination disorder	Fine motor problems? E.g. tying shoelaces, printing Gross motor problems? E.g. clumsy in general, troubles learning to throw ball
Genetic conditions (eg. fragile X, FASD)	Any dysmorphic facies? Any signs of intellectual disability?
Mood and Mental Health Disorders	

Anxiety and Depression	Any problems feeling sad, or lonely? Do you like yourself? Any problems feeling anxious or worrying a lot? Before the anxiety/depression, were there significant problems with behaviour?
Bipolar disorder	Any problems with extreme swings in mood? What are those swings like? Any times when you/they have lots of energy, along with an excited or irritable mood?
Substance use disorders	Ask the teenager: <ul style="list-style-type: none"> ● How much alcohol do you drink? ● How often do you use substances, such as marijuana? If initial screen positive, consider using CRAFFT questionnaire
Neurological conditions	
Seizure Disorder (e.g. absence seizures)	Any periods of unresponsiveness?
Sleep disorders	
Restless legs	Any problems sleeping due restless legs? Are sensations worse at night? Does movement relieve sensations?
Metabolic / Endocrine	
Thyroid problems	Any problems with fatigue, weight changes, problems tolerating heat or cold?
Anemia	Any problems with fatigue or low energy?
Toxins (e.g. lead)	Does the patient live in an old home? Anyone in the family involved in occupations with lead exposure?
Sensory issues	
Vision / Hearing impairment	Any concerns with vision? With hearing?
Sensory processing issues	Are there troubles with processing sensory input, such as hypersensitivity to sound, touch or visual input?

Complications

- Identifying and supporting children/youth with oppositional defiant behaviours is important as untreated, children/youth are at a high risk of current and future problems with relationships, school and work, and mental health problems.

Physical Exam

- The physical exam is important in order to rule out medical conditions that might contribute to a child's behaviour issues.

Vitals (BP, HR, RR, Ht, Wt)	Baseline
General	Any dysmorphic features? (fetal alcohol spectrum disorder, or genetic syndrome) Is the patient excessively pale? (anemia) Are they unable to sit still or fidgeting? (ADHD)
Skin	Dry skin, eczema, brittle nails? (omega 3 fatty acid deficiency)

Thyroid	Any signs of hyper or hypothyroid?
CVS	Any cardiovascular issues? Cardiovascular conditions are a relative contraindication to certain medications.
Neurological	Any focal findings?

Assessment / Screening tools

- The following are some free to use tools that may be helpful in helping establish diagnosis of ODD / ADHD and monitor severity of symptoms:
 - **National Initiative for Children’s Healthcare Quality (NICHQ) Vanderbilt Assessment Scale**
 - Parent and teacher assessment scales for ages 6–12y
 - Identify children with ADHD, ODD, conduct disorder, anxiety, or depressive symptoms
 - < 10 rules out ODD
 - Items “Actively defies to go along with adults’ requests or rules” and “Is angry or resentful” effective in ruling in ODD
 - Sensitivity (55-88%) and specificity (85-94%)
 - Link: <http://www.nichq.org/childrens-health/adhd/resources/vanderbilt-assessment-scales>
 - **SNAP-IV Teacher and Parent Rating Scale for children with ADHD**
 - Parent and teacher rating scales for ages 6-18y
 - Designed to identify children with ADHD, may help detect ODD symptoms as well
 - Links:
 - <http://www.caddra.ca/pdfs/caddraGuidelines2011SNAP.pdf>
 - <http://www.adhd.net/snap-iv-form.pdf>
 - **Pediatric Symptom Checklist**
 - Parent assessment for ages 4-16y, self-report for ages 11y and up
 - Not specific for ODD, but can screen for cognitive, emotional, or behavioural problems
 - Helps identify children who require further investigation
 - http://brightfutures.org/mentalhealth/pdf/professionals/ped_sympton_chklst.pdfInvestigations

Investigations

- There are no investigations that are diagnostic of ODD, however investigations may be helpful to rule out contributory or comorbid conditions
- General laboratory screening may include
 - CBC (to rule out anemia)
 - Lytes
 - BUN/Cr
 - Ferritin (to rule out iron deficiency)
 - Thyroid indices (to rule out thyroid disorders)
 - Liver enzymes
- Other tests to consider
 - Serum lead (if suspect acute intoxication or chronic exposure)
 - B12 and folate (if suspect deficiency)
- Other tests or referrals
 - Psycho-educational assessment (to rule out ADHD, learning, or intellectual disability)
 - Audiology assessment (to rule out hearing problem)
 - Optometry assessment (to rule out visual problem)
 - OT assessment (to rule out developmental coordination disorder, sensory processing issue)
 - Neurology assessment (to rule out seizure disorder)

- Genetics consult (to rule out genetic syndrome)
- Developmental paediatrics consult (to rule out intellectual disability, developmental delay, autism spectrum disorder)
- Mental health professional (if significant issues with anxiety/depression)

Management in Primary Care

- Establish a therapeutic alliance with both parent and child
 - Find goals that everyone can agree with (e.g. helping everyone get along better), as opposed to mainly goals that only parents would agree with (e.g. helping my child behave better)
 - Simply listening to each side, and voicing each side's perspective can be powerful
- There are programs that teach parents skills have been shown helpful for oppositional behaviours such as:
 - Incredible Years Program,
 - Triple P parenting,
 - Collaborative Problem-Solving (CPS)
- These can be delivered in group, or by individual therapists
- Common elements seen in many parent management programs include the following:
- Parenting Skills and Behaviour Management Training (BMT)
 - Increase positive parenting
 - Use consistency, fairness, empathy, and mutual respect
 - Praise good behaviour and use affection regularly (positive reinforcement)
 - Consider tangible rewards (sticker charts, privileges)
 - Provide opportunity for choices
 - Age-appropriate supervision, get to know child's friends
 - Role model
 - Decrease negative parenting
 - Spanking and physical punishment never appropriate
 - Learn what to ignore and accept mistakes
 - Realistic goals
 - Specifically define problem behaviour with goal to reduce frequency
 - Start with one behavior at a time, prioritize safety (e.g. hitting)
 - Positive discipline
 - Discipline = teaching skills, not punishment
 - Set realistic household rules/expectations
 - Include child's input in development of rules and consequences
 - Consider posting list of rules in area for all family members to see
 - Predictable, immediate response to disruptive behaviour
 - Clear explanation for why behaviour unacceptable (avoid long lectures)
 - Tips
 - Redirection (switch to another activity)
 - Logical consequences
 - Team problem solving
 - Time Ins
 - For children who require co-regulation, such as young children
 - Parent stays with child until they are calm
 - Mirror child's feelings to help them identify trigger for the behaviour
 - Plan ahead
 - When there are behavioural issues over daily routines, consider visual schedules, talking about the routine in advance, and letting the child know about any changes
- Reduce triggers (e.g. hunger, overtired)
- Provide a calm, comfortable, organized environment

- Naps are important for young children, regular bedtime routine
- Regular mealtimes with healthy snacks
- Healthy brain interventions
 - Ensure sufficient sleep
 - Limit screen time (especially violent shows/games)
 - Regular, frequent exercise (consider structure/organized activities)
 - Consider referring to mental health professionals who can provide counseling/therapy
- Situations where counseling/therapy may be particularly important include:
 - Conflict, or relationship issues between the child and the parent
 - Child with comorbid mental health issues such as depression/anxiety

Patient Resources and Handouts

- Books
 - “Kids are Worth It! Giving Your Child the Gift of Inner Discipline” by Barbara Coloroso
 - “The Explosive Child: A New Approach for Understanding and Parenting Easily Frustrated, Chronically Inflexible Children” by Ross Greene
 - “Your Defiant Child: 8 Steps to Better Behavior” by Russel A. Barkley, Christine M. Benton
- Online
 - American Academy of Child and Adolescent Psychiatry
 - In depth summary of ODD
 - https://www.aacap.org/App_Themes/AACAP/docs/resource_centers/odd/odd_resource_center_odd_guide.pdf
 - Short summary of ODD
 - http://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Children-With-Oppositional-Defiant-Disorder-072.aspx
 - American Family Physician
 - Helpful tips for teaching good behaviour
 - <http://www.aafp.org/afp/2002/1015/p1463.html>
 - Canadian Pediatrics Society
 - Positive discipline
 - http://www.caringforkids.cps.ca/handouts/guiding_with_positive_discipline
 - http://www.caringforkids.cps.ca/handouts/tips_for_positive_discipline

Medication Treatments

- Psychosocial interventions are first-line
 - Continue during all phases of care
 - Substantial evidence and low risk
 - Limited evidence for pharmacotherapy in patients without ADHD
 - No long term benefits or safety data available
- Indications for medications
 - Severe functionally disabling ODD, conduct problems, or aggression (2015) and psychosocial interventions have been insufficient (Gorman, 2015)
 - Child > age 6
- If co-morbid ADHD:
 - Psychostimulant first-line (strong recommendation)
 - Treatments for impulsivity such as
 - Risperidone
 - Moderate quality evidence, benefit small

- Added to psychostimulant or use as monotherapy
- Dose: Lower doses typically used e.g. 0.5-2.5mg daily
- Side effects: Sedation, weight gain,
- Dose related: extrapyramidal symptoms, increased prolactin
- Guanfacine or Clonidine
- For children/youth with oppositional defiance, but without comorbid conditions such as ADHD or autism spectrum disorder (ASD), there is very little evidence (Gorman, 2015)

When to Refer

- Consider referring when
 - Oppositional defiant behaviours are not responding to less intensive interventions
 - There is severe hostility, aggression or other issues such as substance use (French, 2011)

Who to Refer to

- Publicly funded mental health services such as child/youth mental health agencies
- Individuals in private practice, such as private practice psychotherapists, counselors, social workers, psychologists, etc.

References

- American Psychiatric Association. (2013). Disruptive, impulse-control, and conduct disorders. In Diagnostic and statistical manual of mental disorders (5th ed.).doi:doi:10.1176/appi.books.9780890425596.dsm15
- Hamilton, S., & Armando, J. (2008). Oppositional defiant disorder. *American Family Physician*, 78(7), 861-866.
- Bauer, N. S., & Webster-Stratton, C. (2006). Prevention of behavioral disorders in primary care. *Current Opinion in Pediatrics*, 18(6), 654-660. doi:10.1097/MOP.0b013e3280106239 [doi]
- Pliszka, S., & AACAP Work Group on Quality Issues. (2007). Practice parameter for the assessment and treatment of children and adolescents with attention-deficit/hyperactivity disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46(7), 894-921. doi:10.1097/chi.0b013e318054e724 [doi]
- Hong, J. S., Tillman, R., & Luby, J. L. (2015). Disruptive behavior in preschool children: Distinguishing normal misbehavior from markers of current and later childhood conduct disorder. *The Journal of Pediatrics*, 166(3), 723-30.e1. doi:10.1016/j.jpeds.2014.11.041 [doi]
- American Academy of Child and Adolescent Psychiatry. (July, 2013). Facts for families: Children with oppositional defiant disorder. Retrieved December 15, 2015, from https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Children-With-Oppositional-Defiant-Disorder-072.aspx
- French, W. P., & Kisicki, M. D. (2011). Management of disruptive behavior disorders. *Pediatric Annals*, 40(11), 563-568. doi:10.3928/00904481-20111007-07 [doi]
- American Academy of Child and Adolescent Psychiatry. (July, 2013). Facts for families: Children with oppositional defiant disorder. Retrieved December 15, 2015, from https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Children-With-Oppositional-Defiant-Disorder-072.aspx
- Becker, S. P., Langberg, J. M., Vaughn, A. J., & Epstein, J. N. (2012). Clinical utility of the vanderbilt ADHD diagnostic parent rating scale comorbidity screening scales. *Journal of Developmental and Behavioral Pediatrics* : JDBP, 33(3), 221-228. doi:10.1097/DBP.0b013e318245615b [doi]
- Ringoot, A. P., Jansen, P. W., Steenweg-de Graaff, J., Measelle, J. R., van der Ende, J., Raat, H., et al. (2013). Young children's self-reported emotional, behavioral, and peer problems: The berkeley puppet interview. *Psychological Assessment*, 25(4), 1273-1285. doi:10.1037/a0033976 [doi]
- Gorman, D. A., Gardner, D. M., Murphy, A. L., Feldman, M., Belanger, S. A., Steele, M. M., et al. (2015). Canadian guidelines on pharmacotherapy for disruptive and aggressive behaviour in children and adolescents with attention-deficit hyperactivity disorder, oppositional defiant disorder, or conduct disorder.

Canadian Journal of Psychiatry.Revue Canadienne De Psychiatrie,60(2), 62-76.

- Andrews, D., Mahoney, W. J., & Canadian Paediatric Society. (2012). Children with school problems (2nd ed.). New York: Wiley.
- Kershaw, D., Anderson, L. (2014). Measuring the Generational Spending Gap in Canada. Retrieved Jan 25, 2016 from https://d3n8a8pro7vhm.cloudfront.net/gensqueeze/pages/107/attachments/original/1422919540/Gen-spending-gap-method-paper-2014-03-31_for-website.pdf?1422919540

Clinical Practice Guidelines

Charach, A., McLennan, J., Bélanger, S. A., Nixon, MK. (2017). Joint statement from the Canadian Academy of Child and Adolescent Psychiatry and the Canadian Paediatric Society: Screening for Disruptive Behaviour Problems in Preschool Children in Primary Health Care Settings. *J. Can. Acad. Child and Adolesc. Psychiatry*, 26:3, Fall 2017.

Gorman, D. A., Gardner, D. M., Murphy, A. L., Feldman, M., Belanger, S. A., Steele, M. M., et al. (2015). Canadian guidelines on pharmacotherapy for disruptive and aggressive behaviour in children and adolescents with attention-deficit hyperactivity disorder, oppositional defiant disorder, or conduct disorder. *Canadian Journal of Psychiatry.Revue Canadienne De Psychiatrie*,60(2), 62-76.

About this Document

Written by Kailey Winton, Family Medicine Resident, Class of 2016. Reviewed by members of the eMentalHealth.ca Primary Care including Dr's Farad Motamedi; Mireille St-Jean; Eric Wooltorton; Dr. Michael Cheng.

Disclaimer

Information in this pamphlet is offered 'as is' and is meant only to provide general information that supplements, but does not replace the information from a qualified professional.

Creative Commons License

You are free to copy and distribute this material in its entirety as long as 1) this material is not used in any way that suggests we endorse you or your use of the material, 2) this material is not used for commercial purposes (non-commercial), 3) this material is not altered in any way (no derivative works). View full license at <http://creativecommons.org/licenses/by-nc-nd/2.5/ca/>