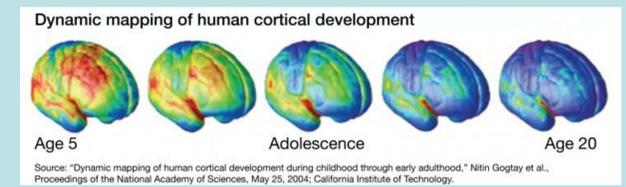


# Reconciling Capacity to Consent With Adolescent Brain Development



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## Introduction

- Recent trend in the media pointing to research about brain development continuing into a person's mid-twenties
- High stakes issues related to capacity of minors are also receiving much public attention i.e. Medical Assistance in Dying (MAiD)
- Opportune time to take a closer look a link between adolescent brain development and health care decision making capacity

## Question

- Does current understanding of adolescent brain development call into question existing legal frameworks that do not delineate a minimum age requirement for granting capacity to consent to medical decisions?

## Objectives

- To summarize adolescent brain development findings, as they relate to decision-making capacity of young people
- To provide a brief overview of consent frameworks in health care
- To address the question of whether the still developing young person's brain impedes on their capacity to consent or refuse medical treatment.

## Background

- Adolescence is a dynamic period of development comprised of biological, behavioral, psychological, and social processes of change
- Neuroscience research suggests that brain development continues into a person's third decade of life<sup>2</sup>
- Differential development, that is a pattern of uneven development between brain regions has been observed in adolescence<sup>1</sup>
- Decision-making capacity is mediated by a multitude of factors, specific to each individual patient
- Paediatric health care values empower the patient through respect for their autonomy (Patient-Centered Care) reinforced by processes like permitting capacity to consent
- Concern raised by families and health care providers regarding the defensibility of consent frameworks that do not consider age as a prerequisite to capacity given the gradual neurological and cognitive development into mid twenties

## Consent Frameworks

- A valid consent to treatment requires that the decision maker be capable of providing the consent
- There are different frameworks guiding capacity assessment:
  - (a) No designated age (i.e. Ontario and British Columbia)
  - (b) Mature Minor Doctrine (MMD) (i.e. Manitoba and Maritime provinces)
  - (c) A statutory minimum age – typically 18 (i.e. Alberta and Quebec)
- The Health Care Consent Act (HCCA) (1996) presumes every individual, regardless of age, capable of consenting to or refusing a specific medical treatment<sup>3</sup>
- Under the HCCA, capacity to consent is a legally defined threshold that requires two components: 'understanding'—of relevant information; and 'appreciation'—of possible consequences to accepting/ rejecting the treatment option
- Following the MMD, an individual under the age of majority may apply for mature minor status, requesting to be recognized as capable of health care decision-making

## Adolescent Brain Development

- While the brain recaches full size in early childhood, fMRI studies demonstrate that it continues to undergo dynamic changes in structure and function into a person's mid 20s<sup>2</sup>
- Neuromodulation, or the maturing of the brain, involves 3 phases: overproduction, pruning, and myelination, contributing to increased efficiency, specialization & connectivity throughout the brain
- Several models pointing to an asynchronous development of prefrontal and striatal signaling and connectivity resulting in heightened sensitivity to reward and propensity to risky decision-making<sup>5,6,7</sup>
- Yet, adolescents' tendency toward risk-taking is extremely context-dependent, with the presence of peers being a uniquely powerful context illustrating that adolescents' risky behavior is socially-modulated<sup>8,9</sup>
- On mainly cognitive, less-affective tasks, adolescents demonstrate adult levels of competence by mid-adolescence<sup>10</sup>
- As individuals develop from late childhood into mid-adolescence, they become capable of abstract, multidimensional, deliberative and hypothetical thinking<sup>11</sup>
- Adolescents are also less fazed by ambiguity/ uncertainty than adults in their decision-making process<sup>12</sup>

## Discussion and Conclusion

- The proposed models raised concern of adolescents engaging in 'riskier' decisions, only given, a peer-laden social context<sup>5</sup>
- Conversely, under conditions that mitigate socioemotional arousal (i.e. not among one's peers) and allow for calculated, deliberative decision-making, adolescents can demonstrate near adult-like capacity<sup>8</sup>
- The models fail to account for non-linear changes in behavior
- Certain processes integral to decision-making capacity are actually uniquely amplified during adolescence, including: learning from direct experience, reward reactivity, and tolerance of ambiguity
- As cited in HCCA, the cognitive capacities involved in decision making are understanding appreciating/ reasoning; these increase through childhood into mid-adolescence
- While age is not irrelevant to a person's decision-making capacity, it is one of many mediating factors including experience, social pressure, learning development, type of decision, brain injury, etc.
- Rather than focusing discussions on deficit-based approaches, there is tremendous opportunity to illuminate the great strengths and potentialities of the adolescent brain
- While the brain remains 'under construction' into mid twenties (22-25), young adolescents can possess sufficient capacity to make complex health care decisions<sup>2</sup>

## Questions for Further Study

- Are health care settings social environments?
- What are the effects of chronic illness or pain on decision-making capacity?
- What are the links between moral development and cognitive development in adolescents?

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