Moving Beyond Cancer to Wellness

Cognitive Function and School Issues after Cancer

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Demonstration

Children Diagnosed With Cancer: Returning to School

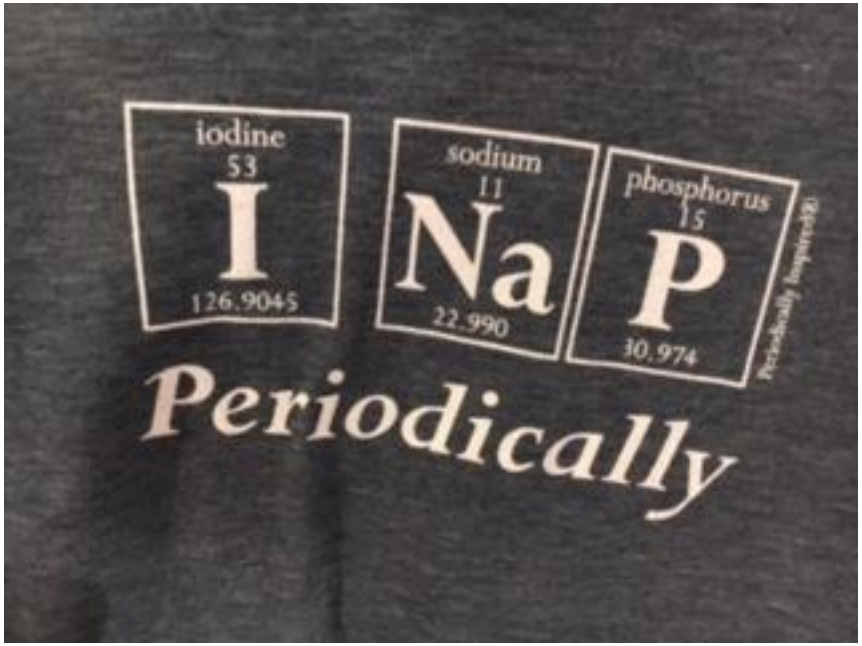
- It is important that children return to school as soon as possible after the diagnosis of cancer.
- Children have a sense of purpose in school and receive the clear message that they have a bright future and potential for a full recovery from cancer.
- Parents will also benefit when their lives return to a more "normal" one. Siblings will also get some much-needed extra attention. It truly is a "win-win" situation for the whole family.

Communication Is the Key

- The first step is to talk with your child's teacher about the cancer
- Talk with your child about returning to school and try to anticipate any questions his peers may have about his cancer. Explain to your child that his friends may not understand much about cancer and might say and ask some strange things.

How Your Child's Cancer May Affect School Performance

- Most children will readjust well to school after a cancer illness.
- But having cancer can bring physical, emotional and cognitive (ability to think and reason) changes, which can affect the child in school.
- But you can help your child by recognizing problems before they become too difficult to manage.


iodine
53
I
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sodium
11
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phosphorus
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P
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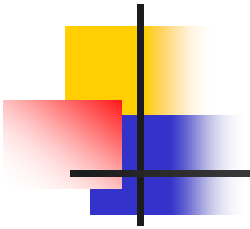
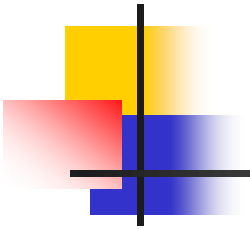
Periodically

- Children may have some learning problems as a result of their treatment. Some of these include:
- trouble paying attention and a tendency to “space out”
- difficulty remembering visual information, such as on a blackboard or in a book



- problems with writing quickly or accurately
- trouble keeping up with new material
- difficulty with math problems, columns, or graphs
- problems planning and organizing



- inability to copy from a blackboard
- difficulty with reading

- You may also notice:
- Your child was an A/B student before their illness and now makes C’s with a great deal of work.
- Your child reads a story but can’t retell it once he has finished reading it.
- Your child is frustrated by school and complains about not understanding the teacher.

If Your Child Is Having a Learning Problem

- First of all, keep in mind that all children have a right to education in the "least restrictive environment," which means your child will be with other typically developing children as much as possible.
- If parents have an issue with the school and the education their child is receiving, they have the right to request a third party mediator to settle disagreements.

- It is best to seek a meeting with the school psychologist or a neuropsychologist who can assess your child for learning problems.

- You may want to request this if your child has had radiation to his brain, whether you notice a problem or not. Oncologists typically refer their patients for a neuropsychological evaluation if the child has received radiation.

- The assessment may include measures of reading, writing, and math skills,
- Cognitive abilities, memory, comprehension, attention, concentration, planning/organization, fine motor skill
- social adjustment.

- This information in addition to teacher's observations and the child's performance in school are then used to develop an Individual Education Plan (IEP) for your child.

What is an IEP?

- An Individual Education Program is a plan developed by the school team which includes parents, teachers, psychologists and other professionals to meet the individual needs of a student.

- It describes your child's learning problem, sets specific goals for your child's education, refers to other services if needed, such as occupational therapy or speech therapy, and provides for regular evaluation of the plan.

- Sometimes students will improve when their work is oral and not written. They may do better when they can use a computer, books on cd, or are given more time to complete assignments.

Accomodations/Modifications

- Section 504
- Accommodations are alterations in the way tasks are presented that allow children with learning differences/disorders to complete the same assignments as other students.

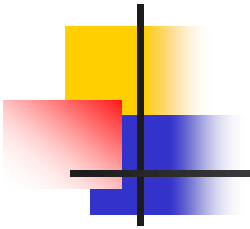
- Accommodations do not alter the content of assignments, give students an unfair advantage or in the case of assessments, change what a test measures.

- Here are some examples of possible accommodations for an IEP team to consider, broken into six categories:

- Presentation:
- Present instructions orally

- Response:
- Allow for verbal responses

- Allow for answers to be dictated to a scribe

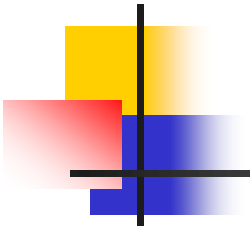


- Timing:
- Allow frequent breaks

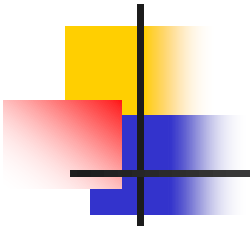
- Extend allotted time for a test

- Setting:
- Provide preferential seating

- Provide a space with minimal distractions



- Test Scheduling
- Administer a test in several timed sessions or over several days
- Allow subtests to be taken in a different order
- Administer a test at a specific time of day



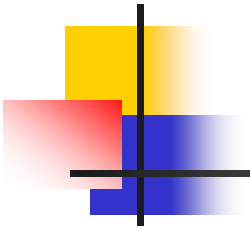
- Other
- Provide pre-exposure to material
- Provide on-task/focusing prompts
- Provide any reasonable accommodation that a student needs that does not fit under the existing categories

Self Control and Executive Functions

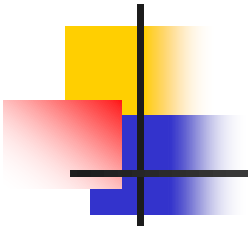
- Children with worse self-control (less persistence, more impulsivity, and poorer attention regulation) at ages 3 to 11 tend to have worse health, earn less, and commit more crimes 30 years later than those with better self-control as children, controlling for IQ, gender, social class, and more

Interventions shown to aid in executive function development in children 4 to 12 years old

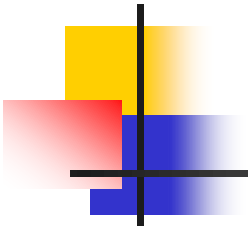
- Diverse activities have been shown to improve children's executive functions:
- computerized training, noncomputerized games
- aerobics, martial arts, yoga
- Mindfulness
- school curricula



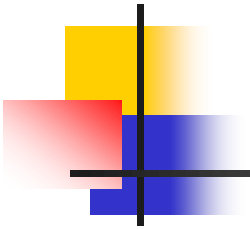
- All successful programs involve repeated practice and progressively increase the challenge to executive functions.
- Children with worse executive functions benefit most from these activities; thus, early executive-function training may avert widening achievement gaps later.



- To improve executive functions, focusing narrowly on them may not be as effective as also addressing emotional and social development (as do curricula that improve executive functions) and physical development (shown by positive effects of aerobics, martial arts, and yoga).



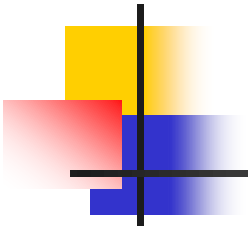
- EF training appears to transfer, but the transfer is narrow. Working memory training improves working memory but not inhibition or speed. If the training was only with visual-spatial items, there is little transfer to verbal material.



- EF gains from martial arts or school curriculum may be wider because the programs themselves address EFs more globally; the transfer may not be wider, but rather the programs address more EF components

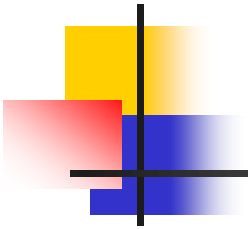
- Many different activities can improve EFs, probably including ones not yet studied (such as music training or sports). One key element is a child's willingness to devote time to the activity. Similarly, curricula need to address EFs throughout the day, not only in a module.

- Repeated practice produces the benefits. Even the best activity for improving EFs done rarely produces little benefit.
- Exercise alone may not be as efficacious in improving EFs as exercise plus character development or exercise plus mindfulness



The features listed below usually characterize high-quality Montessori programs, especially each child freely choosing what to work on and where (the floor, at a table, or outside the room) while the teacher observes each child's activities, challenging and helping each to progress.

- Morning and afternoon sessions are free of scheduled activities, so children can work uninterrupted. Curiosity and interest are valued over finding single answers. The walls are uncluttered; the environment simple but attractive. There is a calm and peaceful atmosphere, with most children in deep concentration on their activities.

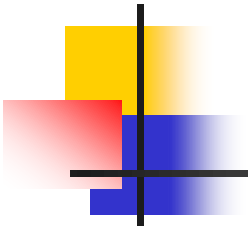


- Large class size is no problem; indeed, classes of 30 to 40 are preferred over classes of 15 to 20 because only when the teacher:child ratio is sufficiently large do older children perceive the need to help instruct younger ones, and such child-to-child mentoring is greatly valued.

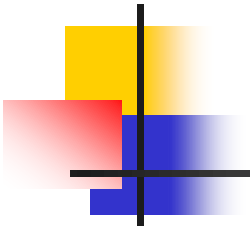
-) EF training appears to transfer, but the transfer is narrow. Working memory training improves working memory but not inhibition or speed. If the training was only with visual-spatial items, there is little transfer to verbal material.

- **Interventions Shown to Aid Executive Function Development in Children 4 to 12 Years Old**
- **Adele Diamond, Kathleen Lee**[1]
- Science 19 August 2011: Vol. 333 no. 6045 pp. 959-964

- **Examples of Specific Metacognitive Strategies Taught in Butler and Copeland's (2002) Cognitive Remediation Program**
- **Strategy Explanation**
- Task preparation
- Warm up my brain: Teaches the child about brain functioning at an age-appropriate level;



- Soup breath: A very brief relaxation exercise that can be helpful in preparing the child to do his or her very best work; should be prescribed as homework
- Game face: To be used as a sports analogy; describe the concept of “game face” to the patient

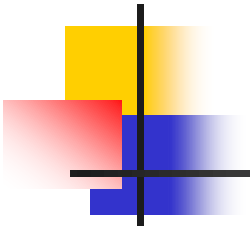


- conveys that one's brain is activated during a cognitive task; strategy is very conducive to the use of visual imagery

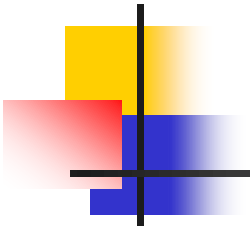
- Magic/special words
- Teaches the child to choose at least 3 words that serve as cues to alert the children/adolescents that they are to do their very best work

- World record: Teaches children to use this strategy as a motivational opportunity to promote the highest level of performance; helpful to encourage the child to keep a personal record of his or her performance as an opportunity to gauge improvements

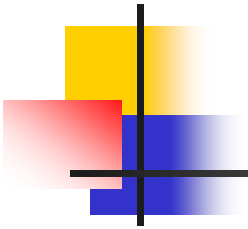
- On-task Talk to myself
- A cognitive behavioral strategy that is both self-encouraging and self-alerting and serves as internal dialogue; the children should continually remind themselves what they are supposed to be doing; serves as a self-monitoring function and self-alerting process



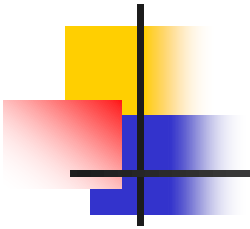
- Mark my place Frequently children will lose their place when working with complex visual arrays;
- making tick marks at the beginning or end of rows will aid one in not losing his or her place



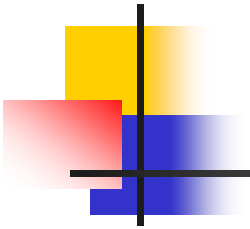
- Start at the top, 1 row at a time Another strategy used with visual-spatial stimulus materials; the child may need to be specifically taught to start in the top left corner and complete the task in a systematic, 1-row-at-a-time fashion
- Look for shortcuts Children with cognitive impairments should be taught to analyze a task and determine the most efficient way to achieve the end goal



- Time out/start over Children should be encouraged to recognize when they are making an error or becoming overwhelmed or frustrated; in response to these feelings, the child should be encouraged to take a break, ask for help, and start over



- Look at the floor Many children engage in distraction behaviors; when one becomes distracted, it can be helpful to stare at the floor or a blank surface Hints If a child is struggling, he or she should be encouraged and taught to seek assistance or a hint
- Posttask Check your work The child should be encouraged at all times to check his or her work, and the eventual goal of this strategy is for it to be completely internalized



- Ask for feedback The child should be encouraged to seek feedback on his or her level of performance and look for opportunities for improvement
- Reward yourself Create opportunities to celebrate improved performance of achievement
- SOURCE: Adapted from Butler and Copeland (2002) and reprinted with permission from Cambridge University Press

Improving Students Learning with effective Learning Techniques

Dunlosky, Rawson, Marsh, Nathan, & Willingham (2015)

- High utility assessment because they benefit learners of different ages and abilities and have been shown to boost student's performance across many criterion tasks and even in educational contexts
- **Practice testing**
- **Distributed practice**

Effective Learning Techniques, continued

- Moderate utility assessments – benefits do generalize across some variables, yet despite their promise, they fell short of a high utility assessment because the evidence for their efficacy is limited. Show enough promise to recommend their use in appropriate situations
- Elaborative Interrogation
- Interleaved practice
- Self – explanation

Effective Learning Techniques, continued

- ***Low utility assessment.***

- Summarization – shown to help some students on some criterion tasks – conditions under which technique produce benefits are limited.

- Highlighting/underlining – frequently used, yet do not consistently boost students performance, so other techniques should be used in their place (e.g., practice testing instead of rereading).

- Keyword mnemonic – difficult to implement in some contexts, benefit for limited number of materials for short retention intervals.

- Imagery use for text learning – shown to help some students on some criterion tasks – conditions under which technique produce benefits are limited.

- Rereading - frequently used, yet do not consistently boost students performance, so other techniques should be used in their place (e.g., practice testing instead of rereading).

Resource Materials

- If you would like a copy of the resources and intervention slides:
- Email: david.breiger@seattlechildrens.org
- Please put Resource Materials in the subject line

Where can I get more information?

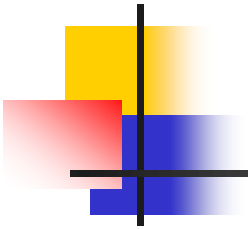
- Additional information is available from the National Information Center for Children and Youth with Disabilities (phone: 1-800-695-0285; website: www.nichcy.org).
- Candlelighters Childhood Cancer Foundation, for the free publication: *Educating the Child with Cancer, a Guide for Patents and Teachers* (phone: 1-800-366-2223; website:
- www.candlelighters.org.)

- National Childhood Cancer
- Foundation
- 440 E Huntington Dr
- Arcadia, CA 91066-6012
- (800) 458-6223
- http://www.curesearch.org
- Provides information and resources for pediatric cancer survivors

- American Cancer Society
- 1599 Clifton Rd NE
- Atlanta, GA 30329-4215
- (800) ACS-2345
- http://www.cancer.org
- Programs include equipment and supplies, support groups, educational
- literature, and summer camps for childhood cancer survivors

- Childhood Cancer Ombudsman
- Program
- 27 Witch Duck Ln
- Heathsville, VA 22473
- gpmonaco@rivnet.net
- Provides help for pediatric cancer survivors
- experiencing problems gaining access to appropriate
- education, medical care, health care cost coverage,
- and employment

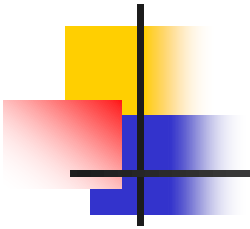
- Federation for Children With
- Special Needs
- 1135 Tremont St, Ste 420
- Boston, MA 02120
- (617) 236-7210
- http://www.fcsn.org
- Federally funded organization providing information on
- special education rights and laws, conferences, referrals
- for services, parent training workshops, publications, and
- advocacy information



- National Center for Learning
- Disabilities
- 381 Park Ave S, Ste 1401
- New York, NY 10016
- (888) 575-7373
- http://www.ncld.org
- Offers extensive resources, referral services, and educational programs related to learning disabilities

Excellent Websites

- http://www.coreknowledge.org/, provides "enrichment" information
- http://www.allkindsofminds.org/, provides information and recommendations regarding a large number of learning differences
- http://www.readingrockets.org/
- http://www.ldonline.org/



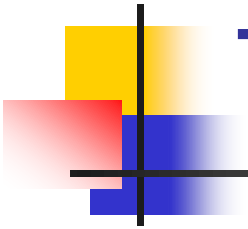
- http://www.ldonline.org/

Homework and organization

- "Thinking Organized for Parents and Children: Helping Kids Get Organized for Home, School and Play" by Rhona M. Gordon
- Executive Skills in Children and Adolescents: A Practical Guide to Assessment and Intervention (Practical Intervention In The Schools) (Paperback)
  by Peg Dawson and Richard Guare
- Seven Steps To Homework Success: A Family Guide For Solving Common Homework Problems" by S. S. Zentall
- "Ending The Homework Hassle" by John Rosemond
- "Homework Without Tears" by Lee Canter

High School and College

- Excellent sources on organizational and study skills for college are found on the internet, including:
- A Guide to Effective Study skills for College:
- http://www.adprima.com/studyout.htm
- Sites to Promote Academic Success
- http://www.uni.edu/walsh/linda7.html
- http://www.ucc.vt.edu/stdysk/stdyhlp.html
- http://www.mtsu.edu/~studskl/



Thank you!

- Questions?