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Promoting Positive Coping and Mastery Through the Use of Rewards or Praise

Clinical Question

P (population)	Among pediatric patients,
I (intervention)	does the use of praise
C (comparison)	versus rewards
O (outcome)	improve behavior and coping during a stressful healthcare experience?

Target Population

Pediatric patients undergoing a stressful healthcare experience.

Definitions

Praise – A verbal statement or tangible item which positively recognizes or affirms a child's intrinsic qualities or exemplified behaviors, such as a certificate of bravery, a trophy, or a medal.

Reward – A tangible item that serves as an extrinsic motivator or incentive, such as a matchbox car or small toy.

Recommendation

It is recommended that the use of an incentive, whether praise or reward, be used in a systematic and planned manner in order to positively affect behavior and coping in children undergoing a stressful medical experience (*Jay 1987 [2a]; Manne 1994 [2b]; Manne 1990 [3b]; Allen 1987 [4a]; Slifer 1994 [4b]*).

Note 1: Using praise as part of a systematic approach during a healthcare experience is most effective in affecting behavior when given to children in specific, contingent ways (e.g. "You are doing a great job at holding your arm still.") rather than nonspecific, unlabeled praise (e.g. "You are doing a good job.") (*Manne 1994 [2b]; Gelfand 2003[4a]; Manne 1992 [4a]; Pringle 2001 [4b]*).

Note 2: Using praise or reward is most effective when a healthcare professional has a conversation with the child prior to the stressful healthcare experience to communicate: 1) the praise or reward system being used, and 2) the desired and expected behaviors of the child during the healthcare encounter (*Jay 1987 [2a]; Manne 1994 [2b]; Manne 1990 [3b]; Allen 1987 [4a]; Slifer 1994 [4b]*).

Discussion/Summary of Evidence Related to the Recommendation

While there is a lack of sufficient evidence to make a recommendation on the use of praise versus reward in children undergoing stressful healthcare experiences, there was evidence to determine that the use of an incentive, whether praise or reward, is most effective when utilized in a systematic approach (*Jay 1987 [2a]; Manne 1994 [2b]; Manne 1990 [3b]; Allen 1987 [4a]; Slifer 1994 [4b]*). Slifer, et al (*1994 [4b]*) found that 8 out of 10 children in their study were successful at completing radiation therapy without sedation if they received behavioral training with specifically designed reinforcers, such as a sticker for each step of the procedure and reward at end of the procedure combined with praise throughout the procedure. In 1990, Manne, et al [*3b*] incorporated parent coaching, attention distraction, and positive reinforcement to manage the child's distress

during invasive cancer treatment; the child could win a sticker by holding still and win another if they engaged in a coping strategy using a party blower. They found that the behavioral intervention decreased children's distress and increased cooperation. In 1994, Manne, et al [2b] conducted a randomized control trial which examined a behavioral intervention for children undergoing venipuncture that included positive reinforcement. Both parents and nurses were trained in the intervention and positive reinforcement techniques; they found that direct parent coaching and praise was associated with positively influencing the child's behavior. Jay, et al (1987 [2a]) used a randomized controlled trial to examine the efficacy of a well-defined cognitive-behavioral intervention package and a low-risk medication as compared with standard treatment for the purpose of reducing children's distress associated with bone marrow aspirations. The researchers found that the behavior therapy, which included a systematic use of incentives, was helpful in the reduction of child distress more than Valium or no intervention. In a descriptive study by Allen and Stokes (1987 [4a]), systematic use of practice, escape (e.g. taking a break from the procedure), stickers, and praise was found to be effective in decreasing children's uncooperative behavior during dental treatment from 90% to less than 15%.

When using a systematic approach, praise was found to most effective when it was used in specific, contingent ways, addressing the specific behavior worthy of praise (Manne 1994 [2b]; Gelfand 2003[4a]; Manne 1992 [4a]; Pringle 2001 [4b]). In a descriptive study by Gelfand and Dahlquist (2003 [4a]), the researchers examined whether mothers and nurses demonstrated co-occurrence of criticism and praise and whether these statements were associated with child distress. They found that criticism from either the nurse or the mother had a positive correlation with child distress and recommended that non-specific praise be replaced by more specific forms of praise along with clarification of the behavior(s) worthy of praise. Manne et al. (1992 [4a]) conducted a descriptive study examining relations between adult behaviors and child distress, crying, and coping during venipuncture. They noted that praise from adults and patient coping were positively correlated at procedure completion and recommended parent training in the use of contingent praise to increase effectiveness. In 1994, Manne, et al [2b] conducted a randomized control trial examining a behavioral intervention for children undergoing venipuncture. They reported that praise moderately affected children's behavior and that direct, specific parent coaching of the child resulted in influencing the child's behavior in comparison to general encouragement. Pringle, Hilley, Gelfand, Dahlquist, Switkin, Diver, et al. (2001 [4b]) conducted a descriptive study that examined the effectiveness of an intervention for reducing behavioral distress in children during needle sticks. The distress management intervention included teaching parents how to use specific praise statements to validate their child's behavior during venipuncture, which decreased distress in 5 of 8 patients in the study.

When a reward was used in a systematic way, the children were informed of the protocol in advance; a verbal contract was made prior to the procedure, so that the child understood what behavior was expected from them in order to receive the reward (Jay 1987 [2a]; Manne 1994 [2b]; Manne 1990 [3b]; Allen 1987 [4a]; Slifer 1994 [4b]). In the randomized control trial by Jay, et al. (1987 [2a]), the children in the study were told, prior to the procedure, how the reward could be earned. In their descriptive study, Allen and Stokes (1987 [4a]) rewarded children with small toys for prizes for cooperation during dental treatments. The children were told ahead of time what behavior they needed to exhibit in order to earn the prize at the end of the treatment. Both studies by Manne, et al. in 1994 [2b] and Manne, et al. in 1990 [3b] used stickers as part of their behavioral intervention plan for children undergoing venipuncture. The children were told that they could win one sticker for holding their hand still and win another sticker for using a blower during the procedure. Slifer, et al. in 1994 [4b] used a detailed protocol for helping to increase cooperation during radiation treatment.

Each step of the procedure and expected behaviors were clearly explained to the child before the procedure, and the child had an opportunity to earn a sticker on a chart for each step with which they cooperated. The sticker chart included details which helped clarify expectations, such as their name, the date, and how many stickers they needed to earn a prize.

Lastly, two points of interest were derived from the literature. First, it was interesting to note that the systematic behavioral intervention plans found to be effective, which included praise or reward, were utilized in patients that had a history of being uncooperative in past medical procedures. In the controlled clinical trial by Manne, et al. (1990 [3b]), the children included in the sample had been identified as previously needing restraints during procedures. The restraints needed in the group receiving the behavioral intervention were significantly less than those needed in the control group. Allen and Stokes (1987 [4a]) included in their study children who had failed to cooperate in the past and found that the children rewarded with escape (e.g. taking a break from the procedure), inexpensive stickers, and praise for cooperative behavior during dental treatments were shown to reduce disruptive behaviors from 90% to less than 15%.

Another point of interest was the results found in the randomized control trial by Jay, et al. (1987 [2a]). In this study, the group that received the behavioral intervention plan, which included a trophy incentive, had lower levels of distress than those who had received Valium or who were in the control group. The behavioral intervention included filmed modeling, breathing exercises, imagery/distraction, positive incentive, and behavioral rehearsal. Children in the behavioral therapy group were asked which of these elements “helped the most” and which they “liked the most.” In reference to the trophy, the children rated the prize as “helping the least,” but that they “liked it the most.”

In summary, when using praise or reward with children undergoing a stressful healthcare experience, a planned and systematic approach is most effective in promoting positive coping and behavior (Jay 1987 [2a]; Manne 1994 [2b]; Manne 1990 [3b]; Allen 1987 [4a]; Slifer 1994 [4b]). This systematic approach is most effective when praise is used in specific, contingent ways and when the child is informed of expected behaviors prior to the healthcare experience (Jay 1987 [2a]; Manne 1994 [2b]; Manne 1990 [3b]; Allen 1987 [4a]; Gelfand 2003[4a]; Manne 1992 [4a]; Pringle 2001 [4b]) Slifer 1994 [4b]). Evidence is still needed to determine whether praise or reward is more effective at promoting mastery and positive coping in children undergoing stressful healthcare experiences.

Dimensions for Judging the Strength of the Recommendation

1. Grade of the Body of Evidence	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Low
<i>Comments: 2a, 2b, 3b, 4a, 4b=5 studies.</i>			
2. Safety / Harm (Side Effects and Risks)	<input checked="" type="checkbox"/> Minimal	<input type="checkbox"/> Moderate	<input type="checkbox"/> Serious
<i>Comments: Limited harm, risks, or side effects on the patient.</i>			
3. Health benefit to patient	<input type="checkbox"/> Significant	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Minimal
<i>Comments: Potential psychological benefit to the patient in terms of coping, quality of life, mastering healthcare experiences.</i>			
4. Burden on patient to adhere to recommendation	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Unable to determine	<input type="checkbox"/> High
<i>Comments: Limited adherence needed from the patient. Recommendation is targeted more at staff and their use of praise or rewards.</i>			
5. Cost-effectiveness to healthcare system	<input type="checkbox"/> Cost-effective	<input checked="" type="checkbox"/> Inconclusive	<input type="checkbox"/> Not cost-effective
<i>Comments: Rewards cost more than praise. Analyzing which is more effective could lead to cost-saving measures or validate the use of funds for rewards. Currently, there is no conclusive evidence to determine which is more effective in promoting coping and mastery.</i>			
6. Directness of the evidence for this target population	<input type="checkbox"/> Directly relates	<input checked="" type="checkbox"/> Some concern of directness	<input type="checkbox"/> Indirectly relates
<i>Comments: The interventions used in the literature included praise and/or reward, but the two were not directly compared or analyzed in the data.</i>			
7. Impact on morbidity/mortality or quality of life	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low
<i>Comments: Quality of life may be affected in a positive way if children are better able to learn and utilize coping skills during stressful procedures.</i>			

Reference List (*Evidence Level in []; See Table of Evidence Levels following references*)

- Allen, K. D., & Stokes, T. F. (1987). Use of escape and reward in the management of young children during dental treatment. *Journal of Applied Behavior Analysis*, 20(4), 381 [4a]
- Gelfand, K. M., & Dahlquist, L. M. (2003). An examination of the relation between child distress and mother and nurse verbal responses during pediatric oncology procedures. *Children's Health Care*, 32(4), 257-272 [4a]
- Jay, S. M., Elliott, C. H., Katz, E., & Siegel, S. E. (1987). Cognitive-behavioral and pharmacologic interventions for children's distress during painful medical procedures. *Journal of Consulting and Clinical Psychology*, 55(6), 860 [2a]
- Li, H.C.W. & Lopez, V. (2005). Children's emotional manifestation scale: Development and testing. *Journal of Clinical Nursing* 14, 223–229 [2a]

- Manne, S. L., Bakeman, R., Jacobsen, P. B., Gorfinkle, K., Bernstein, D., & Redd, W. H. (1992). Adult-child interaction during invasive medical procedures. *Health Psychology, 11*(4), 241 [4a]
- Manne, S. L., Bakeman, R., Jacobsen, P. B., Gorfinkle, K., & Redd, W. H. (1994). An analysis of a behavioral intervention for children undergoing venipuncture. *Health Psychology, 13*(6), 556 [2b]
- Manne, S. L., Redd, W. H., Jacobsen, P. B., Gorfinkle, K., Schorr, O., & Rapkin, B. (1990). Behavioral intervention to reduce child and parent distress during venipuncture. *Journal of Consulting and Clinical Psychology, 58*(5), 565 [3b]
- Pringle, B., Hilley, L., Gelfand, K., Dahlquist, L. M., Switkin, M., Diver, T., et al. (2001). Decreasing child distress during needle sticks and maintaining treatment gains over time. *Journal of Clinical Psychology in Medical Settings, 8*(2), 119-130 [4b]
- Slifer, K. J., Bucholtz, J. D., & Cataldo, M. D. (1994). Behavioral training of motion control in young children undergoing radiation treatment without sedation. *Journal of Pediatric Oncology Nursing, 11*(2), 55 [4b]

SUPPORTING INFORMATION

Background/Purpose of BEST Development

Child life specialists lead the way in modeling appropriate use of incentives after stressful medical procedures. Child life specialists and other medical professionals regularly utilize and distribute incentives to children following stressful healthcare experiences. One of the main goals of child life is to teach children to master healthcare experiences by helping them cope effectively. Coping and mastery are more intrinsic skills, and it is unclear if using external motivators truly help teach children these intrinsic skills. Utilizing incentives also can be more costly than using a praise system for children. The discipline of child life currently does not have research that addresses whether or not rewards or praise are more effective in helping promote a child's mastery of a stressful healthcare experience. Evidence is needed to validate these practices in order to best promote mastery and positive coping for children undergoing stressful medical procedures.

Applicability Issues

The literature included in this recommendation used an age range of patients from 3 years old to 15 years old. Using a systemic approach to praise or reward may be effective in promoting positive behavior and coping with older children as well, but there is a lack of sufficient evidence to determine this. Also, there is insufficient evidence to determine the effectiveness of these recommendations in patients with developmental or behavioral challenges.

Outcome or Process Measures

By effectively using praise or reward for children undergoing stressful medical procedure, child life specialists strive to increase positive patient coping and mastery of healthcare experiences. The Children's Emotional Manifestation Scale is a valid and reliable tool that can be used to measure children's emotional responses during stressful medical experiences (Li & Lopez, 2005 [2a]).

Search Strategy

Terms: children, pediatric, praise, reward, incentive, behavior, coping, distress, anxiety, motivation, healthcare, medical patients, prize
 Databases: Medline, PsychoINFO, Cinahl, Google Scholar
 Date range: Limited to articles printed between the years of 1980 through 2011
 Last search: 10/6/11

Relevant CCHMC Evidence-Based Documents

None were found.

Group/Team Members

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Conflicts of Interest

Conflicts of Interest were declared for each team member:

- No financial conflicts of interest were found.
- The following financial conflicts of interest were disclosed:

Note: Full tables of evidence grading system available in separate document:

- [Table of Evidence Levels of Individual Studies by Domain, Study Design, & Quality](#) (abbreviated table below)
- [Grading a Body of Evidence to Answer a Clinical Question](#)
- [Judging the Strength of a Recommendation](#) (abbreviated table below, dimensions table above)

Table of Evidence Levels (see note above)

Quality level	Definition
1a ⁺ or 1b ⁺	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
3a or 3b	Fair study design for domain
4a or 4b	Weak study design for domain
5a or 5b	General review, expert opinion, case report, consensus report, or guideline
5	Local Consensus

†a = good quality study; b = lesser quality study

Table of Recommendation Strength (see note above)

Strength	Definition
It is strongly recommended that... It is strongly recommended that... not...	There is consensus that benefits clearly outweigh risks and burdens (or visa-versa for negative recommendations).
It is recommended that... It is recommended that... not...	There is consensus that benefits are closely balanced with risks and burdens.
There is insufficient evidence and a lack of consensus to make a recommendation...	

Copies of this Best Evidence Statement (BEST) and related tools (if applicable, e.g., screening tools, algorithms, etc.) are available online and may be distributed by any organization for the global purpose of improving child health outcomes.

Website address: <http://www.cincinnatichildrens.org/svc/alpha/h/health-policy/best.htm>

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- the BEST may be adopted or adapted for use within the organization, provided that CCHMC receives appropriate attribution on all written or electronic documents; and copies may be provided to patients and the clinicians who manage their care.

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Please cite as: Cincinnati Children's Hospital Medical Center: Best Evidence Statement, Promoting Positive Coping and Mastery Through the Use of Rewards or Praise <http://www.cincinnatichildrens.org/svc/alpha/h/health-policy/best.htm>, BEST 122, pages 1-7, Jan. 18, 2012

This Best Evidence Statement has been reviewed against quality criteria by 2 independent reviewers from the CCHMC Evidence Collaboration.

For more information about CCHMC Best Evidence Statements and the development process, contact the Evidence Collaboration at EBDMinfo@cchmc.org.

Note

This Best Evidence Statement addresses only key points of care for the target population; it is not intended to be a comprehensive practice guideline. These recommendations result from review of literature and practices current at the time of their formulation. This Best Evidence Statement does not preclude using care modalities proven efficacious in studies published subsequent to the current revision of this document. This document is not intended to impose standards of care preventing selective variances from the recommendations to meet the specific and unique requirements of individual patients. Adherence to this Statement is voluntary. The clinician in light of the individual circumstances presented by the patient must make the ultimate judgment regarding the priority of any specific procedure.