



**Samuel Neaman Institute**  
for National Policy Research

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The Samuel Neaman Institute was established in 1978 in the Technion at Mr. Samuel Neaman's initiative. It is an independent multi-disciplinary national policy research institute. The activity of the institute is focused on issues in science and technology, education, economy and industry, physical infrastructure and social development which determine Israel's national resilience.

National policy research and surveys are executed at the Samuel Neaman Institute and their conclusions and recommendations serve the decision makers at various levels. The policy research is conducted by the faculty and staff of the Technion and scientists from other institutions in Israel and abroad and specialist from the industry.

The research team is chosen according to their professional qualifications and life achievements. In many cases the research is conducted by cooperation with governmental offices and in some cases at the initiative of the Samuel Neaman institute and without direct participation of governmental offices.

So far, the Samuel Neaman Institute has performed hundreds of exploratory national policy research projects and surveys that serve decision makers and professionals in economy and government. In particular the institute plays an important leading role in outlining Israel's national policies in science, technology and higher education.

Furthermore , the Institute supports national projects, such as the Ministry of Industry, Trade & Labor clusters - the MAGNET program in nano-technologies, media, optics and communication, chemistry, energy, environmental and social projects of national importance. The institute organizes also comprehensive seminars in its leading fields of research.

The Samuel Neaman Institute's various projects and activities can be viewed at the Institute website.

The chairman of Samuel Neaman Institute is professor Zehev Tadmor and the director is professor Omri Rand. The institute operates within the framework of a budget funded by Mr. Samuel Neaman in order to incorporate Israel's scientific technological economic and social advancement.

Mailing address:

Samuel Neaman Institute, Technion City, Haifa 32000, Israel

Phone: 972-4-8292329

Fax: 972-4-8231889

e-mail: [info@neaman.org.il](mailto:info@neaman.org.il)

Website : <http://www.neaman.org.il/Neaman>



# **Preventive Intervention for Pediatric Surgery Patients**

**Dr. Ciporah S. Tadmor**

**Department of Pediatric Surgery – Rambam Medical Center**

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# Preventive Intervention for Pediatric Surgery Patients

**Dr. Ciporah S. Tadmor**

**Department of Pediatric Surgery – Rambam Medical Center**

The research on preventive intervention for pediatric surgery patients subsidized by the Samuel Neaman Institute was conducted between the years 1982-1985. In 1986, the American Psychological Association (APA) Task Force on Prevention selected “The Perceived Personal Control Intervention for Coping with Pediatric Surgery and Caesarean Birth” as one of the 14 exemplary model prevention programs based on a National Survey of 900 such programs in the USA. In 1988 APA published a book entitled “14 Ounces of Prevention: A Casebook for Practitioners” designed to provide the essential information needed by health care practitioners to replicate promising prevention programs.

Dr. Ciporah S. Tadmor

[tadmorc@sni.technion.ac.il](mailto:tadmorc@sni.technion.ac.il)

Medical Psychologist

Rambam Medical Center 1980-2005.

Currently: December 2015

Specialist in Medical Psychology

Consultant, Primary Prevention and Medical Psychology

Pediatric Surgery Department Rambam Health Care Campus

## **The SNI website includes the following:**

1. The underlying principles of the Perceived Personal Control Crisis Model.
2. Changes in policies in Pediatric Surgery Department and Operating Room.
3. The original medical and nursing staff involved in the implementation of the preventive intervention in the Pediatric Surgery Department and Anesthesiology at Rambam Medical Center.
4. A brief feedback from parents of children that underwent surgery
5. A video designed for the medical and nursing staff that cater for children undergoing surgery “*Butterflies and Bandages: Pediatric Surgery without Fear*”, in English.
6. A video designed for children undergoing surgery and their parents “My Surgery” in Hebrew.

# Psychological Preparation for Children Undergoing Surgery

## Dr. Ciporah S. Tadmor

### Introduction

Clinical and empirical evidence suggest that surgery can be accompanied by emotional trauma that can lead to either transient or long term psychological disturbance in children. A preventive intervention approach geared to enhance the mental wellbeing of pediatric surgery patients and their parents is being implemented in the Pediatric Surgery Department at the Rambam Medical Center in Haifa, Israel since 1982. In 1986 our prevention models, designed to answer the psychological needs of two high risk populations, pediatric surgery, patients and caesarean birth mothers, was selected by the American Psychological Association (APA) as an exemplary model with other 13 primary prevention models out of 900 programs that were surveyed by the Task Force Committee appointed by the APA in 1983. The 14 primary prevention programs relating to the life-span continuum from birth to death were published by the APA in a book entitled "Fourteen Ounces of Prevention: A Casebook for Practitioners (Price, Cowen, Lorion & Ramos - Mckay, 1988). The book can be purchased [www.apa.org/books/ 14 ounces.html](http://www.apa.org/books/14_ounces.html). The selection of the exemplary primary prevention programs were chosen on the following criteria: (a) the model is based on a sound theoretical basis, (b) the model has received empirical verification, and (c) the model is replicable.

The preventive intervention model denoted as the *Perceived Personal Control Crisis Model (PPC)* is a synthesis derived from Lazarus (1968) notion of the idiosyncratic (subjective) perception of the stressor and Caplan's (1964) notion of the lack of a coping mechanism to deal with the stressor. The PPC model is based on a theoretical model of crisis which received theoretical and empirical verification in a doctoral dissertation at the Hebrew University (Tadmor, 1984), and is the only psychological preparation program to date that is designed to answer the specific age-related psychological tasks of pre-school and school-age children undergoing surgery.

The research hypothesis that received empirical verification (Tadmor, Bar-Maor, Birkhan, Shoshany and Hofman, 1987)<sup>1</sup> assumed that the source of trauma for pre-school children is derived from separation anxiety hence pre-school children will benefit from induction of anesthesia in the presence of parents as well as to wake-up in their presence in the recovery room, while the source of trauma for school-age children is derived from loss of control and fear of the unknown therefore they will benefit from psychological preparation. In line with these findings we changed the policy of our Pediatric Surgery Department as early as 1984 and subsequently, about half a dozen Pediatric Surgery Departments in Israel followed suit.

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<sup>1</sup> This research was supported by a grant from the Samuel Neaman Institute for Advanced Studies in Science and Technology Technion - Israel Institute of Technology and Rambam Medical Center.

## **Principles of the psychological preparation program**

The psychological preparation program based on the PPC model is geared to enhance the perceived personal control of the child undergoing surgery and his parents. This is done by a series of situational manipulations such as convening a network of natural and organized support systems, information dissemination, anticipatory guidance, and share in the decision making process, as well as task-oriented activities, all designed to enhance control on the emotional, cognitive and behavioral control respectively. Psychological preparation is implemented by an interdisciplinary team of physicians, nurses, anesthetists, psychologist, and child-life workers and comprises of the following activities:

- (a) Freeplay
- (b) Art therapy
- (c) Play therapy
- (d) Pyschodrama
- (e) Bibliotherapy
- (f) Puppet show
- (g) Operating room tour
- (h) Video portraying a child that has undergone surgery
- (i) Information with respect to surgery, induction of anesthesia, and postoperative sensations

## **The goals of the psychological preparation program**

The primary goals of the interventions dictated by the PPC preventive intervention model are to enhance the children's and parents' perceived personal control by (a) establishing a trusting relationship with the medical and nursing staff, (b) establishing a support group for children undergoing surgery and their parents, (c) familiarizing the children and their parents with the expected procedures and sensations encountered, (d) sharing in the decision making process, and (e) acquiring alternative coping techniques.

The psychological preparation program implemented in the Pediatric Surgery Department is a holistic program in that it takes into account: (a) the physiological aspects of the child as well as his psychological needs and (b) the needs of the child as well as those of his parents and the attending medical and nursing staff.

The psychological preparation program is unique in three ways:

1. It is implemented by the medical and nursing staff in charge of the child undergoing surgery.
2. It caters to the age-related psychological needs of the children
3. The empowerment of the child and his parents are accompanied by changes in policies, structure, and an allocation of resources of all the departments that care for the operated child such as the Pediatric Surgery, the Operating Room, and the Recovery Room. The changes introduced are designed to cater to the psychological and developmental needs of children undergoing surgery and to promote their mental health. The following are some of the changes introduced between 1982-1998 in the Pediatric Surgery and other relevant departments at Rambam Medical Center many of which were adopted by other leading Pediatric Surgery Departments in Israel.

## **CHANGES IN POLICIES IN PEDIATRIC SURGERY DEPARTMENT AND THE OPERATING ROOM RAMBAM MEDICAL CENTER: 1982-1998**

1. Allocation of a room for medical & psychological preparation.
2. Allocation of an induction room in the proximity of the operating room.
3. Weekly tour of the department and the operating room
4. Allocation of child-life workers
5. Provision of booklets and training material
6. All children admitted on day of surgery
7. School-age children admitted on a separate day than pre-school children
8. On day of surgery older children scheduled before younger ones.
9. Elimination of premedication.
10. Preparation matched with age related psychological tasks
  - a. Pre-school children - anesthesia induced in presence of parents and wake-up in their presence.
  - b. School-age children - psychological preparation.
11. Continuity of care guaranteed
12. Children decide on kind of induction.
13. Withholding all procedures in operating room until Child is anaesthetized
14. Children wake-up in the presence of parents in the recovery room
15. Provision of postoperative information to parents
16. Parents room-in with child
17. Parents participate in care of children.
18. Hospitalization is shortened
19. Differentiate between necessary pain and unnecessary painful procedures.
20. Use of Emla cream to anaesthetize skin before insertion of IV line.

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## **OUR STAFF**

### Pediatric Surgeons

Professor Y. Bar-Maor Director of the Pediatric Surgery Department

Dr. G. Shoshany

Dr. Y. Sweed

Dr. L. Hayari

### Pediatricians

Dr. M. Lam

Dr. A. Shalata

### Nurses

E. Abraham, R.N. Head Nurse Pediatric Surgery

D. Zontag, R.N. Nurse Pediatric Surgery

R. Baliki, Nurse Practitioner

A. Abbas, Operating Room Nurse

M. Alkobi, R.N. Head Nurse Recovery Room

### Anesthetists

Professor J. Birkahn , Director of the Anesthesiology Department

Dr. B. Rosenberg

Dr. M Rosenberg

Dr. E. Yussim

Dr. M. Rosenshein

### Medical Psychologist

Dr. C. S. Tadmor

### Child-life Workers

R. Hofman, Nursery Teacher

N. Assad, Teacher

A. Merr, Art Therapist

## Letters from Parents

There is no doubt that the preparation for surgery and the personal care in the play room was wonderful. Although, for us it did not add much from an information point of view, because this is not the first surgery that our son has had and there was no need to explain to us or to our son technically what was going to happen. However, from a psychological point of view it was excellent. It was good to know that there is someone who cares for the child and is concerned about his fears. That there is somebody out there who cares for the parents and knows that they are afraid, and concerned about the psychological and emotional side of the whole thing. It is a marvelous idea and I hope it will continue. It is excellent.

Haya Zalberg

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I think the play-room is wonderful. It is an excellent preparation for the child and his parents. Being there, allows one to get used to the atmosphere of the hospital, the corridors, the elevator, the entrance to the operating room became concrete and familiar. Furthermore, the relaxed and comfortable atmosphere in the play-room helped the child and the parents to accept the surgery in a positive and confident manner.

Eran had had a previous surgery when he was three years old. At that time we didn't tell him about the surgery and we even misled him by telling him that he had to undergo only a medical test. When he had to put on the hospital gown we told him that we were going to dress him up like a doctor. The surgery came as a total surprise. On his way to the operating room he cried and screamed and when he woke up after surgery he cursed his father for not telling him the truth. His father tried to make it up to him by buying him a car but it did not help. Days after the surgery he was still mad at his father.

This time the preliminary meeting with the medical team, the play room, the advance information, the booklet, and the puppet show helped him for the most part to be calm. When we returned home from the hospital our son said that he enjoyed very much his visit to the hospital. During the weekend before the surgery he read the booklet he received at the hospital about the surgery and he considered the options for induction of anesthesia, whether to choose induction of anesthesia by using the mask or through the IV line. He was extremely impressed that every detail described in the booklet corresponded exactly with the surgery that he had gone through. He asked me how it could be that they knew exactly what had happened to him during his surgery. He also wanted to know how they knew how he had behaved during the blood test: "Did the person who wrote the booklet peak into the laboratory?"

On the day of surgery he recognized the hospital bed and the small cupboard next to it and he actually knew what to expect all along the way.

It seems to me that because of the advance preparation he accepted everything with a great deal of understanding in spite of the fact that normally he tends to be quite fearful. Even after the surgery he described what he had seen and how it all corresponded with what he had read in the booklet.

Meyerowich Family

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In the “previous surgery we had no contact with the medical staff. Our son did not visit the department and he wasn’t familiar with the hospital. Everything seemed strange and frightening to him.

This time our son met a friendly and dedicated team worthy of appreciation and gratitude. When tension is released and the parents calm down they transmit this to the child.

Hachamy David

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The activity related to the preparation and alleviation of anxiety is very positive. The relationship with the medical staff and the information given reduces fears and establishes a sense of security and sharing for the parents as well as for the child. Although we have not experienced surgery in the past, we have encountered, on various occasions, different departments in hospitals. We would like to note that the caring attitude of the medical and nursing staff contributed to a feeling of well-being and calm. Concentration of all the activities in the play-room, establishing a sense of relaxation in the child turns the event into a pleasant and positive experience. The possibility to be with the child during the induction of anesthesia was especially important to us in helping us to realize our responsibility as parents as well as to our child in allowing him to comply with the team.

Shalva Weinberg

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Eitai has already had two surgeries prior to the current one. The first one was when he was two years old and it was uneventful because he was young. He received an IM injection in the department which put him to sleep and he slept through the procedure and wasn’t aware of what was going on around him.

The second surgery he had when he was three years old, he remembers. Well for two reasons: first he was older and second because he went into the operating room wide awake and was frightened by the threatening instruments. Induction of anesthesia was done by an inhaling mask which created such a terrible fear that he never got over it. As a result, in the current surgery he asked to be anaesthetized through an IV line.

To the current surgery Eitai went without fear. He knew that anesthesia would be induced by an IV line, he toured the operating room and familiarized himself with what was going on in there. He received information about all the instruments and so the unknown and the threatening became known and familiar. I think that because of the wonderful preparation before surgery Eitai knew what was going to happen. He was not afraid, came gladly to the hospital on the day of surgery, and today, three weeks after surgery you can’t tell at all that he had surgery. We too, the parents, were more relaxed this time and we were not worried that the operation would have negative side effects. Keep up the good work! Continue with the wonderful preparation before surgery.

From Eitai and his family

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The explanations about the surgery process and the side effects after surgery reduced tension. We were calm. Our son was happy and on the day of surgery he came to the hospital without any objection.

Duhada Salah

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Our son was extremely impressed by the activities in the playroom. The children seemed relaxed and carefree and the activities took the sting out of the sensations that usually accompany surgery and hospitalization. The team in the playroom treated the children in a natural, warm and friendly manner the attitude to parents was also pleasant and natural and involved us in what was happening to our child.

Tzidon Rivka

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Last year our son underwent a tonsillectomy. We did not receive any preparation, neither us as parents nor our son. Everything was new and unknown. We felt throughout like we were walking in darkness. Falling down and getting up on our own without support. Our child's reactions after the surgery had a great effect on us. He cried and was afraid of everything, of every nurse and every injection. In our opinion there is nothing to compare with the psychological preparation that he received before the current surgery. It eased his recovery from surgery. We were rehabilitated and so was our son.

The Saban Family

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This activity is very important since it helps both the child and the parents. The warm and personal relationship that was established contributed to a feeling of security and participation. This time, in contrast with the previous surgery, our son underwent, he received instruction and explanations and he knew where he was going, he became familiar with the department and the staff, which contributed, to his inner calm.

Livne Tal

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The most important thing to me next to the success of surgery was that our daughter would not be separated from us, since this separation may trigger anxiety and trauma in the future. In my opinion the method used today, in which anesthesia is induced while the child is in the arms of the parents is very important and contributes greatly to the parents and even more so to the child. The direct relationship with the psychologist and the physicians during the surgery (providing information to the parents during surgery) comforted and strengthened us and sustained us during a difficult and tense period.

Biran Bruria.

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Our daughter, Naama, came to the hospital with the idea that she was only going to undergo medical tests and that the surgery was still far away. This was done because she was scared of the very idea of the surgery and she constantly cried and told us that she was not willing to come to

the hospital for surgery. When we found out that there was a psychologist and a team of child life workers and physicians that explained to the child and parents what was going to happen, we all calmed down.

Our daughter came home after the psychological preparation and told everyone what was in store for her without unnecessary fears. On the day of surgery she woke up and hastened us to the hospital not to be late for surgery. Thank you for the caring treatment. Let there be more like you.

Aviram Family

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As a mother and a clinical nurse in the School of Nursing, I was very glad to see that in our hospital (Rambam) there existed such a program for preparing children for surgery as is ideally needed and as written in the text books. I have no words to express my appreciation for this wonderful project. The preparation for surgery calms one down, especially the child and relaxes him in anticipation of surgery. Our son went to the surgery willingly and gladly. Preparation also contributes to the calmness of us as parents. As a clinical nurse in the School of Nursing I would like to: see this kind of preparation for adults as well. Let it be.

Daphna Levy

## Videos

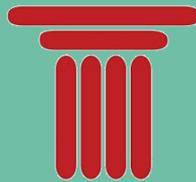
The first video entitled “*Butterflies and Bandages: Pediatric Surgery without Fear*” is designed for the medical and nursing staff that cater to children undergoing surgery. The video explains the rationale and the basic principles of the Perceived Personal Control Preventive Intervention.

**Video: “*Butterflies and Bandages: Pediatric Surgery without Fear*”.**

The second video entitled “*My Surgery*” is designed for children undergoing surgery and their parents.

**Video: “*My Surgery*”.**

The videos were produced by Dr. Ciporah S. Tadmor with the assistance of the Center of Improvement of Teaching at the Technion, Rambam Medical Center, and the Samuel Neaman Institute for Advanced Studies in Science and Technology.



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**Technion - Israel Institute of Technology**

Tel : 04-8292329, Fax : 04-8231889

Technion city, Haifa 32000, Israel

[www.neaman.org.il](http://www.neaman.org.il)