
Natalia VISALLI

# Aspetti educazionali e SAP: stato dell'arte

*Gruppo Interassociativo SID-AMD GISED*

*N. Visalli*

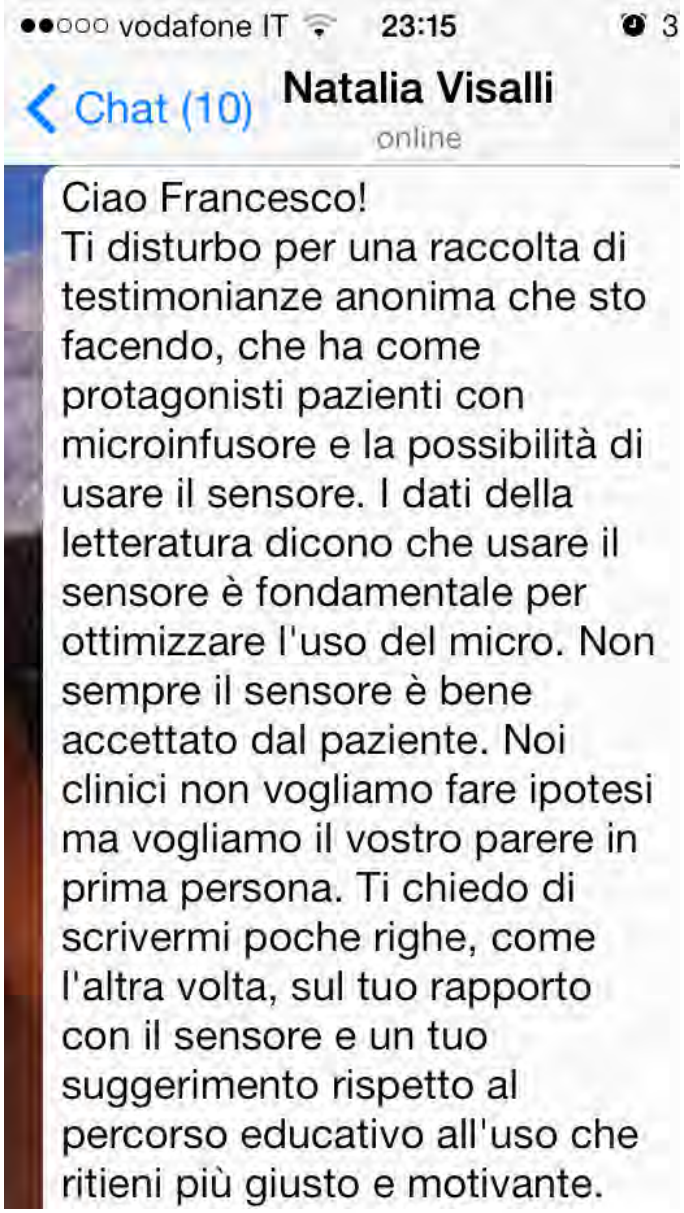
# Metodo

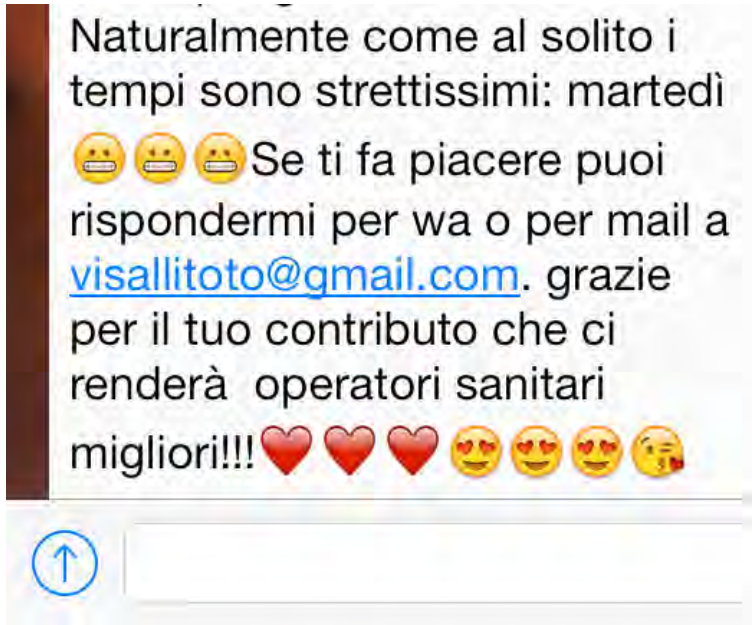
Raccolta testimonianze pazienti

Ricerca bibliografica su riviste specializzate sull'argomento

Intervista con il personale tecnico delle aziende del settore

## Raccolta testimonianze pazienti




SAP THERAPY
RIFLESSIONE
SICUREZZA
NON CI SI SENTE MALATI
CONTROLLO
DONNA BIONICA
COMODO
DA UN SENSO
CAPISCO
IL MIO CORPO
IL MIO DIABETE
E' UNA SFIDA
AIUTO
INTRUSO
cyborg
sacrificio
SONA SEMPRE
UNA SCOCCIATURA
UN BUCO IN PIÙ
SI STACCA
DIFFICILE NASCONDERLO
ALTRI CEROTTI
FRECCETTE TERRORISTICHE
Aspetti educazionali e psicologici
Esperienza positiva il micro che legge le glicemie!
Toglie sicuramente più di quanto potrebbe dare

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Ricerca bibliografica

# For Health Professionals

Home › For Health Professionals › Articles of Interest

**Articles of Interest**

## Contributing Factors to Insulin Pump Errors in Children, Adolescents and Adults (March 2012)

*Helene Clayton-Jeter, OD*

**Objective:**

The objective of this project was to research available information related to adverse events associated with the use of insulin pumps by children, adolescents and adults. The research was conducted utilizing the internet, FDA intranet, and phone interviews. The issue was brought to the agency's attention by the American Association of Clinical Endocrinologists (AACE). AACE and the Center for Devices and Radiological Health approached the Office of Special Health Issues (OSHI) to further investigate and propose a plan to address this concern. OSHI's role is to identify options to be considered to address the issue of support and educational outreach.

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**Methods:**

A search for information on patient errors in the use of insulin pumps was conducted over a two-week period and consisted of reviewing numerous peer-reviewed scientific articles, reviewing non-peered reviewed articles, reviewing blogs and advocacy group websites, researching different pump manufacturers, interviewing Diabetes Educators, and interviewing OSB personnel. Some of the references reviewed include the following:

Trade/Scientific Journals

1. American Academy of Family Physicians
2. Diabetes Care
3. Pediatrics
4. Diabetes Technology Therapeutics
5. Pediatrics in Review
6. Medical News Today
7. American Family Physician

FDA Websites

1. MedWatch - The FDA Safety Information and Adverse Event Reporting Program
2. Manufacturer and User Facility Device Experience Database (MAUDE)
3. FDA.gov

Internet Websites

1. Diabetes Life
2. Center for Disease Control/National Institutes of Health
3. Juvenile Diabetes Research Foundation
4. Insulin Pump Manufacturers: Animas Ping, Accu-Check Spirit, DANA Diabecare, Deltee Cozmo, Insulet Omnipod, Minimed Paradigm, Nipro Amigo
5. 2008 Scripps Texas Newspapers/Caller.com
6. American Association of Clinical Endocrinologists
7. American Association of Family Practitioners
8. American Association of Diabetes Educators

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**Conclusions and Proposed Actions:**

Children, adolescents, and adults with diabetes deserve careful consideration, education, training, supervision, monitoring and long-term follow up in order to properly use the insulin pump technology. A multi- disciplinary team approach is needed for the safe usage of this device. ~~A number of adverse events reported were directly~~ related to improper patient selection and inadequate education. Recognizing the limits of this device i.e. electronic programmable technology, one must also recognize the fact that the insulin pump will not outperform its owner's abilities in every instance.

In an effort to promote adequate education, the FDA is exploring opportunities to collaborate with AACE and other health professional and advocacy groups to bring awareness to this issue. Below are three options that may be used to achieve this educational goal:

1. Utilize available communication tools such as E-Health cards, widgets, or use the Patient Safety Network as an educational tool to disseminate educational messages and information for insulin pump users, diabetes educators, and other health care providers.
2. Collaborate with AACE to develop a continuing education module for healthcare professionals to address this issue.
3. Develop an educational initiative, consisting of an informational workshop via a collaborative effort with AACE, other health care professionals who treat/care for diabetic patients, manufacturers of insulin pumps, diabetic patient advocacy groups, CDRH and any other agencies within DHHS deemed appropriate.



Insulin pump therapy with the addition of CGM
and
an appropriate educational program
and
medical support,

has enormous potential benefit for the right patients.

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AACE/ACE Consensus Statement

# CONSENSUS STATEMENT BY THE AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS/ AMERICAN COLLEGE OF ENDOCRINOLOGY INSULIN PUMP MANAGEMENT TASK FORCE

*George Grunberger, MD, FACP, FACE (Chair)[1,2]; Jill M. Abelseth, MD, FACE[3]; Timothy S. Bailey, MD, FACP, FACE, ECNU[4,5]; Bruce W. Bode, MD, FACE[6,7]; Yehuda Handelsman, MD, FACP, FACE, FNLA[8]; Richard Hellman, MD, FACP, FACE[9]; Lois Jovanovič, MD, MACE[10,11,12]; Wendy S. Lane, MD[13]; Philip Raskin, MD, FACE[14]; William V. Tamborlane, MD[15]; Caitlin Rothermel, MA (Medical writer)*

**ENDOCRINE PRACTICE Vol 16 No. 5 September/October 2010**



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**EDUCATION AND TRAINING**

In contrast to the highly structured insulin pump programs available in countries such as France and the United Kingdom, where patient education and training are a high priority, many U.S. patients report that their initial pump training took less than 3 hours.

A Swedish study reported that new CSII users experienced a higher frequency of DKA shortly after pump therapy was initiated, suggesting that a failure of education can affect patient safety

Intervista con il personale tecnico

# Training su CGM

Personale coinvolto nella  educazione del paziente:

- Personale infermieristico
- Il diabetologo
- Personale tecnico delle aziende del settore

Il Paziente apprende e mette in pratica direttamente, con un approccio molto pragmatico

Intervista con il personale tecnico

# Training su CGM

**Parte Teorica:**

Primo Blocco:  durata 20 minuti circa

1) Cosa è il CGM e le informazioni che può dare

2)Il liquido interstiziale e la differenza tra glicemia interstiziale e glicemia capillare

3)Il lag-time

4) La Calibrazione

Intervista con il personale tecnico

# Training su CGM

**Parte Teorica:**

Secondo Blocco: Gli avvisi e gli Allarmi del Microinfusore
durata 20 minuti circa

1) Avvisi di Soglia per ipo e iper glicemia
2) Avvisi Predittivi
3) Avvisi di rapida variazione
4) Le frecce di tendenza
5) Sospensione AUTOMATICA in caso di ipoglicemia grave
6) La procedura corretta da seguire prima di intervenire con un'azione correttiva a seguito di un avviso da parte del CGM (conferma con la glicemia capillare)

Intervista con il personale tecnico

# Training su CGM

**Parte Pratica:**
circa 20 minuti

1) Viene spiegato il principio di funzionamento del monitoraggio presentando il set-up: sensore+trasmettitore+insertore+ricevitore/microinfusore
2) La procedura di inserimento del sensore (eseguita direttamente dallo stesso paziente con l'ausilio e la guida del personale infermieristico e tecnico)
3) L'avvio della comunicazione tra il trasmettitore ed il sensore (eseguita direttamente dallo stesso paziente con l'ausilio e la guida del personale infermieristico e tecnico)
4) L'impostazione degli avvisi (su indicazione e con la guida del diabetologo)
5) Raccomandazioni e rassicurazioni sull'utilizzo e l'interazione con le attività quotidiane

## Ricerca bibliografica

Training in proper catheter insertion technique
Frequent glucose monitoring (≥4 or 5 times daily)
Meaning of pump alarms, (e.g., battery failure, empty syringe).
Additional insulin infusion sets, pump batteries, and insulin syringes or pens

Remind of the pump manufacturer's emergency number.

Patients who have been using insulin pumps for many years are prone to mistakes when they change from an older pump to a newer model, and serious morbidity can result .

Periodic retesting of patients and their families is necessary to maximize the value of pump therapy for CSII and to maintain patient safety.

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Since the publication of the AACE Insulin Pump Consensus Statement in 2010 , there has been little progress in developing uniform, comprehensive, and structured training programs in the use of insulin pump therapy.

**Similarly, there is a lack of consensus regarding the best training methods (group or private, use of multidisciplinary teams, educational materials) and the timing of training and follow-up**.



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International Journal of
Evidence-Based Healthcare

doi:10.1111/j.1744-1609.2011.00228.x

*Int J Evid Based Healthc* 2011; **9**: 346–361

EVIDENCE SYNTHESIS

# Effect of educational components and strategies associated with insulin pump therapy: a systematic review

Rasika Sirilal Jayasekara RN BA BScN(Hons) PGDipEdu MNSc PhD,[1]
Zachary Munn BMR (NM)[2] and Craig Lockwood RN BN GDipClinNurs MNSc[2]

[1]*University of South Australia, and* [2]*The University of Adelaide, Adelaide, South Australia, Australia*

**Objectives** The objectives of this review were to establish the effectiveness of approaches to the provision of education for adults with type 1 diabetes using or initiating insulin pump therapy (IPT), and identify the best available evidence on the association between intervals and duration of follow up and the stated outcome criteria.

**Results** A total of 142 studies were identified as potentially relevant to the review question in the first and second steps of the literature search. Based on the title and abstract, 24 papers that were relevant to the review topic were retrieved for evaluation of methodological quality. Following this stage, 20 papers were excluded. Whilst searching the reference lists of the selected studies ($n = 4$), one paper met the inclusion criteria. Therefore, a total of five descriptive studies were included in the review. The included papers reported a variety of educational methods and different outcome measures.

**Conclusion** In general, it is difficult to draw a strong conclusion regarding the effectiveness of components and strategies associated with IPT because of a lack of high-quality comparative studies, small sample sizes and a variability of reported methods in the included studies. However, included descriptive studies explored a range of issues related to the effectiveness of IPT therapy, and the educative requirements of patients. It is clear that type 1 diabetes patients initiating and utilising IPT need a comprehensive range of advice, education and training. The mixture of group and individual teaching, multidisciplinary teams as educators, educational materials, long-term training with multiple sessions and a variety of educational contents may all be effective for delivering IPT education and training.

Aspetti educazionali e psicologici

## SAP THERAPY

Treatment and teaching program (TTP)
Methods: structured program, technical instruction
Duration: 7 days
Contents: insulin pump, catheter and tape, adjustment of insulin dose, daily living instructions, prevention and management of ketoacidosis and severe hypoglycaemia, blood glucose self-monitoring and documentation
Educators: not specified
T & L Aids: not specified

Intensified conventional therapy (ICT) and IPT
Methods: three-step skills-based learning program
1st: 45 min training on carbohydrate counting
2nd: one-on-one instruction on insulin dosage to carbohydrate portions and the use of correction boluses for glycaemic excursions
3rd: short-term follow-up program analysing patients' dairies that incorporated food records, blood glucose records, and insulin dosages to ensure appropriate use of insulin dosage and adjustments
Duration: 1st session 45 min
Contents: as above
Educators: multidisciplinary team
T & L Aids: bespoke displays, commercially available guides

Outpatient intensive insulin pump training
Methods:
1st: group teaching that included both lecture format and interactive sessions
2nd: follow-up training program
Duration:
1st: 8 h
2nd: biweekly visits (1 h) during a period of 2–4 months
Contents: self-monitoring of plasma glucose by finger-stick analysis, carbohydrate counting for determining premeal insulin boluses, calculation of insulin requirements and practical aspect of insulin pump (e.g. insulin replacement, care of needle insertion sites and pump malfunction
Educators: diabetes nurse educator and a registered dietician
T & L Aids: blackboard, books, printed materials, pictures and models of foods and food portions



1 Education and training is important for successful initiation of IPT. (Grade B)
2 Multidisciplinary teams comprised of doctors, nurses, dieticians and diabetes specialist educators form the most effective team for delivering IPT education and training. (Grade B)
3 The mixture of group and individual teaching can be effective for delivering IPT education and training. (Grade B)
4 The use of teaching and learning materials and the provision of materials for patients to take home (e.g. training pump) may be useful for delivering IPT education and training. (Grade B)
5 Blood glucose monitoring, carbohydrate counting, adjustment of insulin dose (initial basal rates and premeal boluses), practical aspects of insulin pump management, including identification of malfunctions, prevention and management of acute complications (e.g. DKA), and lifestyle changes form the core components of IPT education and training programs. (Grade B)
6 Longer-duration training with multiple sessions may be more effective than short, sessional training. (Grade B)
7 The duration and frequency of follow up for optimal self-management of IPT should be adapted to individual needs. (Grade B)

# Developing Uniform Training

Insulin pump therapy training is essential for successful device use.

*Introduction to insulin pump therapy,*
description of the different devices available and a demonstration of the benefits of each (to determine which device best accommodates the patient's needs).

*Once an insulin pump has been selected,*
Training should be provided by either the diabetes program or by clinical representatives of the device company.
Group training has been used more frequently in the hope that patients will receive support and guidance from each other, while decreasing the burden for professionals.

This training should cover the technical aspects of using the device, including filling the reservoir and tubing, priming, button pushing, and the mechanics of insulin delivery.
The choice of infusion sets and their correct insertion and use must also be covered, as should the use of injectable glucagon for hypoglycemia.

One of the greatest challenges facing patients is *the best area to place the infusion set*.
This is particularly important in patients with many years of use, because overuse of skin sites increases insulin absorption variability and scar tissue risk.
Education on preventing infusion site and *infection site reactions* should be discussed at pump initiation, with the appropriate infusion site preparation and tape selected to minimize allergic reactions and improve adherence.
Additionally, good hand-washing techniques should be emphasized to minimize infections.
Antistaph soap is often needed when infections do occur, along with retraining
in appropriate sterile techniques.
If an allergic reaction occurs at the site, a change in the tape adhesive or infusion site type may be required.
In addition, *the need to change the infusion site every 2 to 3 days* to prevent glucose control deterioration has been documented (80).

# Pump-supervising diabetes team

It is important that patients have the knowledge and technical ability
(a) ability to check capillary glucose levels;
(b) knowledge of pre-meal, postmeal, and bedtime target glucose values;
(c) ability to maintain and troubleshoot glucose meter;
(d) knowledge of steps for hypoglycemia detection, prevention, and treatment;
(e) sick day management strategies;
(f) ability to keep food and physical activity records;
(g) basic and advanced carbohydrate-counting skills

Pump setting changes should be made, based on the patient's individualized glycemic goals.
Optimally, patients should be trained to adjust settings based on a review of SMBG and CGM results.
Many changes can be made over the phone after uploading pump, SMBG, and/or CGM information to the "Cloud" or diabetes team office.
The diabetes specialist often makes these adjustments at patient visits, but patients may need changes between visits.

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# Insulin Pump Therapy

## Guidelines for Successful Outcomes

Volume 35, Supplement 2, March/April 2009

### Role of the Diabetes Educator in Insulin Pump Therapy

During the first few weeks after insulin pump therapy initiation, the patient and main care provider for pump therapy should have daily contact. Blood glucose records can be faxed, e-mailed, or telephoned at least weekly for the first month to 6 weeks of insulin pump therapy. Patients should contact their diabetes educator immediately when they need pump or diabetes-related education or support.

After the first month to 6 weeks, the patient and diabetes educator may wish to communicate monthly about pump-specific issues, including troubleshooting unexplained blood glucose fluctuations or advances in technology. During pump-specific appointments, the diabetes educator's assessment includes whether the patient's goals for pump therapy are being met.

Aspetti educazionali e psicologici

## Training Patients and Their Families

It is essential to train patients and their families to handle emergency situations. Patients must understand that hyperglycemia, vomiting, and ketosis can be caused by an infusion site failure or pump malfunction, and they must know how to respond. If unexplained hyperglycemia (blood glucose >250 mg/dL to 300 mg/dL) occurs

Troubleshooting should be implemented immediately to ensure the pump is in place, the prior bolus dose was delivered, and that the infusion set is in place without leaks or crimps in the system.

If the blood glucose does not correct with a correction bolus within a specified timeframe, the entire infusion set and reservoir should be replaced with new insulin.

In the event of pump failure or patient illness, a backup plan to start injection therapy is required (i.e., having basal insulin or an active prescription available), as is access to emergency help (for example, a 24-hour phone line covered by pump therapy specialists).

In the case of pump failure, patients should have a backup, written copy of their pump settings and/or should understand how to adjust their insulin requirements for basal injection therapy.

Acute events

When acute events occur months after initial training, many patients complain that they have forgotten their emergency plan.
It is helpful to provide patients and their families with a written summary of responses to different situations that can be placed prominently at home, work, or school.
Reminding patients of their backup plan and what to do in the event of illness should be part of a routine office visit.
Ideally, patients should be offered ongoing review classes that discuss emergency situations and offermore advanced pump training

# Educating Medical Professionals

The increasing popularity of insulin pump therapy has placed more responsibility on medical professionals who do not specialize in diabetes, such as emergency room and hospital staff, as well as those without medical training, such as teachers and other school personnel.

This change requires that these professionals familiarize themselves with this form of insulin delivery.

In response to increased patient demand to remain on their devices while hospitalized, several publications now describe efforts to teach hospital staff about insulin pump therapy.

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Journal of Diabetes Science and Technology
Volume 6, Issue 1, January 2012


CLINICAL APPLICATION

# Guidelines for Application of Continuous Subcutaneous Insulin Infusion (Insulin Pump) Therapy in the Perioperative Period

Mary E. Boyle, C.N.P., C.D.E.,[1] Karen M. Seifert, M.S.N., C.D.E.,[2] Karen A. Beer, P.A., C.D.E.,[1] Heidi A. Apsey, N.P.,[3] Adrienne A. Nassar, M.D.,[4] Stephanie D. Littman, R.N.,[5] Janice M. Magallanez, R.N.,[5] Richard T. Schlinkert, M.D.,[3] Joshua D. Stearns, M.D.,[6] Michael J. Hovan, M.D.,[7] and Curtiss B. Cook, M.D.[1]

## Suggested Preadmission Procedures Before Elective Surgery for Patients Receiving Insulin Pump Therapy

| |
|---|
| Preadmission nurse notifies the primary diabetes care provider when a patient using an insulin pump is scheduled for planned or elective surgery |
| Before the surgery date, the primary diabetes care provider contacts the patient to do the following:<br>• Verify basal rate settings and insulin to carbohydrate ratio, correction factor, and type of insulin used in pump<br>• Obtain recent blood glucose levels and information about episodes of hypoglycemia<br>• Remind patient to bring additional insulin and pump supplies to the hospital<br>• Remind patient to place a new pump infusion set away from the surgical site within 24 hours before surgery (for an abdominal procedure, the infusion set should be inserted in the arm or leg)<br>• Review institutional requirements for continued use of insulin pump in the event of admission<br>• Advise patient to identify self as an insulin pump user at admission for surgery |
| The primary diabetes care provider recommends insulin pump settings to the patient before surgery |

## Table 3. Planned Metrics for Tracking Perioperative Insulin Pump Cases

| |
|---|
| Demographics (age, sex, race/ethnicity) |
| Disease characteristics |
| Diabetes type |
| Diabetes duration |
| Preoperative hemoglobin $A_{1c}$ level |
| Insulin pump history |
| Duration of pump therapy |
| Insulin type |
| Pump manufacturer |
| Characteristics of surgery |
| Type of procedure |
| Duration of procedure |
| Duration of anesthesia |
| Contact with primary diabetes provider before surgery |
| History of insulin pump therapy documented in anesthesiology preoperative notes |
| Presence and location of insulin pump documented in preoperative, intraoperative, and postanesthesia recovery areas |
| Pump therapy status (continued or discontinued) |
| Glucose values |
| Discharge disposition (admitted or sent home) |

Aspetti educazionali e psicologici

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| Preoperative, Intraoperative, and Postanesthesia Procedures for Patients Continuing Insulin Pump Therapy During Elective Surgery |
|---|
| Preoperative phase |
| Nurse checks point-of-care blood glucose level and informs anesthesia or surgical team if it is a critical value |
| Nurse assesses and documents the insulin pump infusion site and location |
| Nurse confirms with patient that the insulin pump is working, and if assistance is needed, the nurse calls the primary diabetes provider or the customer service number on the back of the insulin pump |
| The anesthesiologist should document the patient's history of diabetes, the insulin pump, and the plan regarding its use intraoperatively |
| If the insulin pump is not functioning, the anesthesiologist is notified for further orders |
| If the insulin pump is removed, the pump is labeled with a patient label and is placed with the patient's belongings until the appropriate time to return it to the patient |
| Intraoperative phase |
| The anesthesiologist assesses the insulin pump infusion site |
| When the patient arrives in the operating room, the nurse or anesthesiologist confirms that the insulin pump is functioning and that the infusion set is intact |
| If the patient arrives in the operating room with the insulin infusion set in the surgical field, the pump is removed and insulin is administered at the direction of the anesthesiologist |
| Blood glucose level is checked every hour during surgery |
| Corrective doses of insulin are given at the direction of the anesthesiologist |
| Postanesthesia phase |
| When the patient arrives in the postanesthesia care unit (PACU), the nurse confirms that the insulin pump is functioning and that the infusion set is intact |
| Point-of-care blood glucose level is checked upon arrival and hourly if applicable |
| If a glucose value is critical, the nurse notifies the anesthesia or surgical team and insulin is administered as ordered |
| If the patient requires hospital admission, pump therapy is continued according to institutional policy |
| If the patient is discharged home from the PACU and the insulin pump was removed during surgery, the patient and the family or caregiver are instructed to resume insulin pump therapy when the patient is alert and able to operate the pump |
| If the patient is discharged home from the PACU and the insulin pump therapy was continued, further instruction on insulin administration is obtained from the patient's primary diabetes care provider |

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# Educating School Personnel

There are no published reports of training programs for school personnel, and this has been frustrating to children, parents, and other school staff, particularly if a school nurse is not available.

In many situations, it is the children's parents who are responsible for educating the school staff on basic and emergency procedures related to their child's insulin delivery.

Many guidebooks are available from manufacturers describing insulin pump use, and these should be provided to schools and hospitals, along with a contact to answer questions and provide further training.

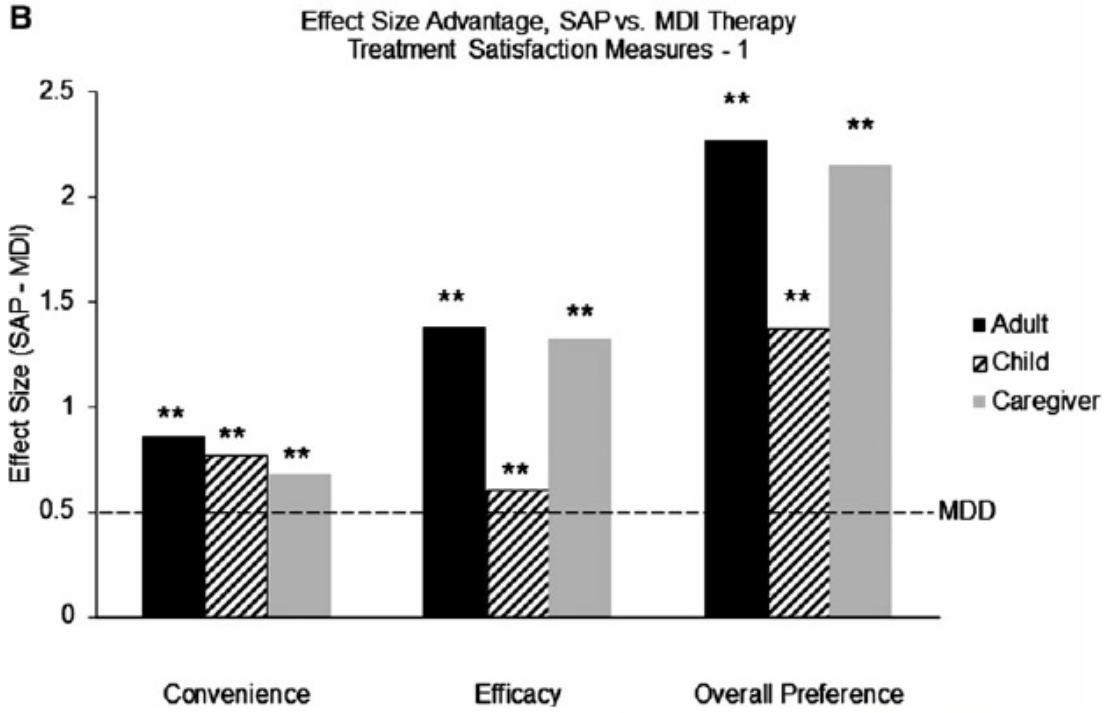
As the use of insulin pumps increases, there is a greater need to develop better and more standardized training and assessment programs for patients, diabetes specialists, nondiabetes practitioners, and nonmedical personnel.

To promote improved patient outcomes, these training programs need to effectively share the knowledge base of insulin pump experts.

DIABETES TECHNOLOGY & THERAPEUTICS
Volume 14, Number 2, 2012

DOI: 10.1089/dia.2011.0162

# Health-Related Quality of Life and Treatment Satisfaction in the Sensor-Augmented Pump Therapy for A1C Reduction 3 (STAR 3) Trial




*Objective:* T … in sensor-augmented … ction (MDI) therapy with … es and children's careg … se.

*Conclusions* … , SAPT had significant a … n in adults, children, an …

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DIABETICMedicine

DOI: 10.1111/dme.12079

# Short Report: Treatment

# Treatment satisfaction in the Sensor-Augmented Pump Therapy for A1C Reduction 3 (STAR 3) trial

M. Peyrot[1] and R. R. Rubin[2] for the STAR 3 Study Group*

[1]Department of Sociology, Loyola University Maryland, Baltimore, MD, USA and [2]Behavioral Health Consulting, Baltimore, MD, USA

*Accepted 22 November 2012*

Diabet. Med. 30, 464–467 (2013)

**Aim** To identify insulin delivery system perceptions that contributed to improvements in overall satisfaction with insulin therapy (treatment satisfaction) that were larger in those using sensor-augmented pump therapy than those using multiple daily injections with self monitoring of blood glucose.

**Conclusions** Treatment satisfaction among children was primarily a function of convenience, while perceived clinical efficacy was also a primary determinant among adults, reflecting different emphases on the treatment process itself vs. treatment consequences. Among adult patients and caregivers, improved treatment satisfaction was also a function of reductions in social burden and interference with daily activities (respectively), reflecting concern with the broader psychosocial impact of sensor-augmented pump therapy on their lives.

Aspetti educazionali e psicologici



**Spesso mi sono ritrovata a dare tutto per scontato, ma il sensore mi ha insegnato a non farlo, a controllare più spesso i miei valori, ad ascoltare di più il mio corpo. Sapere in ogni momento il valore della propria glicemia è bellissimo, perchè ti insegna a comportarti, ti aiuta a capire, ti suggerisce cosa devi o non devi fare. E comunque l'essere smentita, è una sfida…. Ogni volta che lo metto mi dico, vediamo se questa volta sta zitto.**
(Francesca B.)

**Il mio giudizio… il sensore serve, ma non è necessario e risulta inutile se il paziente non è preparato adeguatamente o coinvolto attivamente nella gestione del suo diabete.**
**(Roberta C)**