

Patient Training and Staff Education

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Outline

- This talk reviews the recommended steps to prepare the nurse to educate patients for home PD. Continuing education for the nurse and the roles of nephrologists and clinic administrators are also addressed. In addition, the principles of adult learning are applied to the specific needs of home PD patients who must learn both procedures and problem solving. A literature review is included to evaluate research in patient education for peritoneal dialysis.

Nurses as teachers:

- Most health professionals have little or no formal background in the principles of education
- The complexity of the task of teaching is often overlooked
- Many (*especially MD*) assume the skills will develop automatically
- Even with the best intentions, the results may be haphazard, inefficient and ineffective

www.ISPD.org

Bernardini J, Price V, Figueiredo A. ISPD Guidelines/Recommendations.
Peritoneal Dialysis Patient Training, 2006.
Perit Dial Int 2006;26(5):625-632

A logo for 'PD Patient Training Guidelines' featuring a vertical gradient from red at the top to yellow at the bottom. The text is white and centered within the gradient.

- ISPD Nurse Liaison Committee developed a video for preparing nurses to teach patients to compliment the published ISPD Guidelines.
- Guidelines and handouts available for download
- May be used for individual nurses or for groups of nurses

Guidelines currently in English but translations to Spanish in progress. The manuscript and handouts are freely downloadable.

How are nurses prepared to train home dialysis patients?

- **Many simply given the job**
 - **Assumption that the skills will be acquired**
- **Sent to a course on home therapy**
 - **Often has little or no instruction on teaching /learning**
 - **Assumption that if know how to do dialysis, can teach it to the patient**
- **Sent to a course on teaching and learning**
- **Sent to an experienced training nurse for mentoring**
 - **The role of doctors and administrators is to plan the preparation and continuing education of training nurses.*

As the nurse gains skills as a patient educator, the physician can facilitate opportunities for adult education courses and the time to develop new skills and receive appropriate mentoring by a skilled nurse trainer. This may mean sending the nurse to another center, perhaps in another city, for several days.

Becoming a Patient Educator

- Learn the principles of education
- Develop training skills
- Find a mentor
- Never be complacent about acquiring new skills and new methods of teaching

After one becomes an experienced trainer,
should be a mentor for other nurses.

Who is the learner?

- Patient only
 - ISPD recommends 1:1 nurse patient ratio for PD
 - Some centers have 1:2 or 1:3 or even 1:4 ratios
 - There are no studies to confirm effectiveness
 - There are no recommendations for home HD training ratios.
- Patient with a partner
- Partner only
- Parent / Guardian

The Science of the Learner

Ballerini and Paris, KI, Nosogogy: When the learner is a patient with chronic renal failure, 2007, 70, 122-126.

<u>The Learner</u>	PEDAGOGY dependent	ANDRAGOGY independent	NOSOLOGY dependent aiming to independence
<u>Previous experience</u>	of little worth	rich resource for learning	something to modify
<u>Subjects</u>	learn what society expects	learn what they choose to know	learn what renal staff expects and what they need to perform

The importance of this study is to emphasize that patients learning PD have a different learning milieu and the training nurse must understand and accommodate this. The patient is not like a child learning but neither like a healthy adult.

What is to be learned?

- Specific motor skills
- Concepts
- Procedures
 - which require both motor skills and concepts
- Problem solving

Learning is not just memorizing facts.

A Teaching Plan

- An outline or a detailed course
- Teaching aids
 - Mannequin or apron with practice PD catheter
 - Blackboard, felt board or paper board
- Video or audio tapes, internet

Where to train?

clinic	hospital
home	alternate site

You may use videos, internet, etc, but remember that the patient is never to be left alone with these teaching aids with the expectation that they are being “taught”. The training nurse should be around for questions arising from the material. These are not tools to free up the trainer for other clinical activities.

No other activities in the room during training

A room with a door for privacy and quiet



Chair for patient rest



Work surface and sink for hand washing



IV pole



Able to wash up spills



scale



clock



The role of the physician is to provide the correct environment in which the patient can learn and the nurse is protected from any other clinical activities while training the patient.

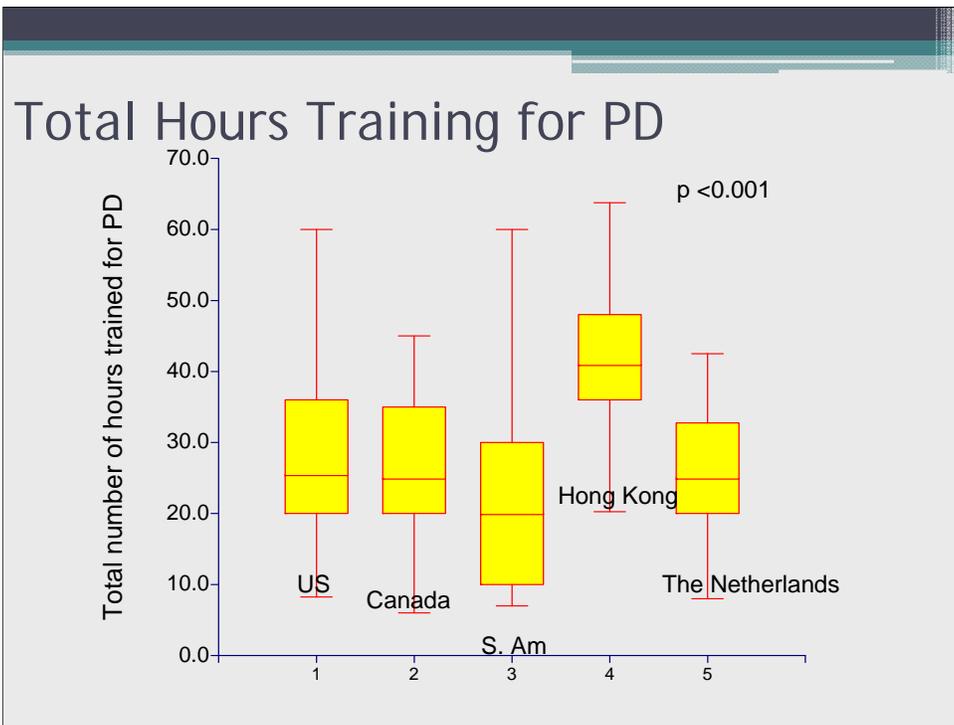
How long should training last?

- There are no randomized trials to compare the length of training with outcomes
- Training should continue **until** the patient can
 - safely perform all required procedures
 - recognize a contamination and an infection and appropriate responses

How do nurses train patients today?

Bernardini J, Price V, Figueiredo A, Riemann A, Leung D. International survey of peritoneal dialysis training programs, *Perit Dial Int* 2006;26(5):658-663.

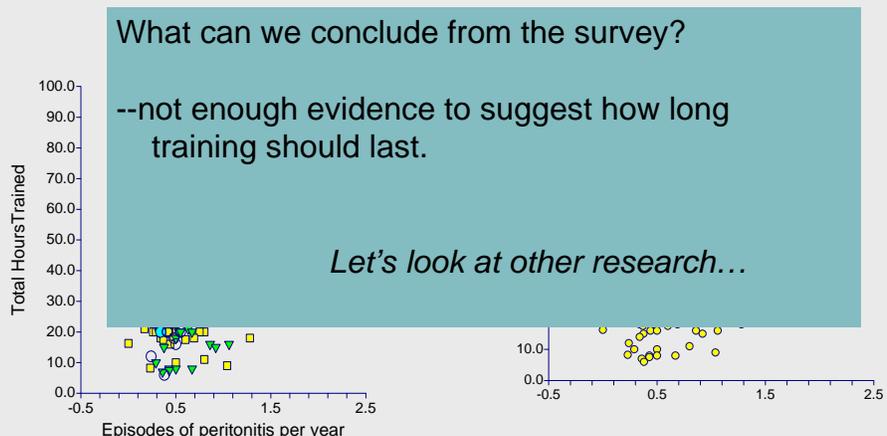
- ISPD Nurse Liaison Committee distributed a survey in 2005 in US, Canada, S. America, China and The Netherlands.
- 317 responses from PD nurses



The US, Canada and the Netherlands reported similar training times, while in South America training time was considerably shorter and in Hong Kong considerably longer.

Relationship of Hours
Trained
to Peritonitis:

Relationship of Days
Trained
To Peritonitis:



This was a disappointing finding---we would have all liked to see that there was a correlation between the number of hours or days of training and rates of peritonitis showing that longer training reduced peritonitis. We did not find a correlation, however this was compromised by the fact the only half the respondents gave their peritonitis rates so it is quite underpowered. Did this mean the nurses did not know their rates? This is worrisome. Or was there another reason for no answer?

New Directions in Peritoneal Dialysis

Training Hall G et al. NNJ 2004;31(2)

- Centers randomly assigned 621 patients to
 - Enhanced training, 246 patients
 - Standard training, 374 patients
- Follow-up for 418 patient years, 1.5 years/patient
- Enhanced training group had *lower infection rates* for both ESI and peritonitis.

These results suggest that a more sophisticated approach to teaching improved outcomes. Unfortunately the curriculum developed for the study has never been placed in the public domain so no one else can use it or test it.

Pediatric Peritoneal Dialysis Training: Characteristics and Impact on Peritonitis Rates. Holloway M. PDI 2001;21

- Evaluated 76 pediatric PD training programs
 - Lowest peritonitis rates found in
 - Programs with >15 patients
 - Programs with longer training time focused on theory and technical skills

While this study was specifically with pediatric patients, it is likely valid also with adults. Patients with more detailed training and those centers with more experience in PD had the best outcomes.

Influence of Peritoneal Dialysis Nurse's Experience on Peritonitis Rates.

Chow KM et al, CJASN;2:2007

- Retrospective study
- Evaluated nurse trainer's length of PD experience with patient incidence of peritonitis
 - Paradoxically, found that patients trained by nurses with the most experience had the highest rates of peritonitis
 - Speculated that those who have practiced PD for many years may not be as familiar with the substantial changes in our understanding of adult learning and curriculum

This is an important study despite the counter-intuitive results. It begs for more research in the area.

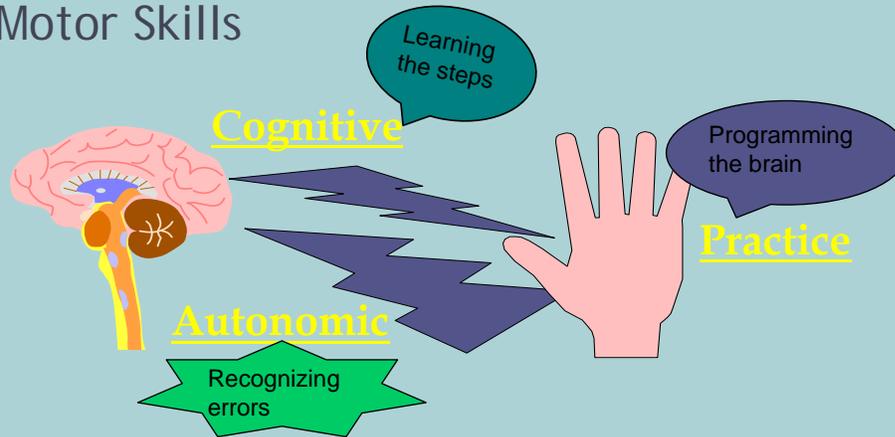
How should the patient be taught?

- Tell the patient
 - what they are going to learn
 - what they must do
 - what the trainer will do
 - how both will know that learning has occurred

Example: The nurse says...

- You are going to learn how to make a sterile connection from the bag to your catheter.
- First you will learn the steps of the procedure.
- You will watch me as I do the steps, and then read aloud each step as I do it.
- When you are able to say all the steps in the right order, you will perform the steps on the mannequin while repeating aloud each step.
- You will be ready to do the connection on your own catheter when you can perform the steps without a mistake 3 times in a row.

Acquiring PD Procedural Motor Skills



- Muscles learn to follow the brain's instructions through 3 distinct stages of learning.

A motor skill is defined as any action requiring practice to accomplish.

Acquiring a motor skill is a unique process involving both the upper and lower brain along with the muscles.

The trainer must guide the learner through 3 distinct stages to achieve this learning outcome – Cognitive, practice and autonomic.

Learning Motor Skills

- **STEP 1:** Patient describes or reads each step; then trainer performs them
- **STEP 2:** Patient does NOT practice procedure until able to describe each step
- **STEP 3:** Patient practices the procedure using the mannequin with PD catheter, describing each step as performed
- **STEP 4:** When able to perform Step 3 successfully, patient performs procedure using own catheter

Teaching about peritonitis:

- Teacher describes a symptom: ask patient to guess if it might be peritonitis
- Use of pairs
 - One very likely, one very unlikely
 - Move on to another pair not so easily differentiated



Clear



very cloudy



clear



slightly cloudy

Use expired bags and added betadine or food coloring to mimic appearance of cloudy bags. Remember that we want patients to discriminate and call us when the first sign of cloudiness appears in order to protect the peritoneal membrane.

Learning Procedures

- A series of motor skills
- If demonstrated from start to finish, the mind sees them together and stores them that way.
- Each part of a procedure may be taught separately but must then be reassembled in order

Rules of Practice

- Never unsupervised until patient is able to do successfully
- No practice until steps accurately described
- Always practice on mannequin until skill mastered
- Immediate feedback from the trainer
 - Tell what doing right
 - Stop when mistake made (NOT LATER)
 - Redirect learner to place where no mistakes made
 - Guide learner through problem areas
 - Avoid “don’t do this”
 - Do not teach **why** during motor skill learning

Tips from the pros...

- Most people learn $\frac{1}{3}$ of what is taught
- Combining visual and audio messages increases learning
- No more than 3-4 key messages / hour ---sessions ≤ 30 minutes---breaks every 2 hours.
- Try not to get ahead of the learner by telling them what to do.
- Most personal learning experiences are NOT helpful as teachers
- Education is not just repeating directions
- *Patient motivation* does not directly increase learning

Problem Solving

- Define problem
- List solutions----have patient pick one
- Evaluate results
- Try another solution if needed
- Encourage to seek advise from others

This is the final part of training after skills, procedures and concepts have been mastered. It is often a difficult part for the patient and requires a lot of time and patience on the part of the trainer. Often it points out areas which need review or re-teaching.

Example of problem solving:

Nurse: “You notice that the fluid is not clear when you check it before going on the cyclor one night. What should you do?”

- Wait until morning to see if you feel sick?
- Check the next day to see if it is still not clear?
- Call the dialysis nurse right away?

Nurse: “What do you think might be the problem?”

- You have the flu
- You have peritonitis
- There is nothing wrong

The nurse presents both the problem and possible solutions. She allows the patient to freely pick a solution and then asks what the patient thinks is the problem. She allows the trainer to see if the patient correctly understands problems and solutions. For example if the patient says they are going to wait until the next day because they think there is nothing wrong, the entire issue of peritonitis needs to be reviewed.

Re-Training

Russo et al, KI 2006 70,S127-132

- Analysis of compliance to identify need for retraining
- 2 phase study:
 - Patient Questionnaire (353 patients)
 - Home visit / score card
- Re-training needs greater for patients
 - <55 years old
 - lower education
 - <18 months on PD
 - >36 months on PD

This is the only study of retraining to date. So while it may not answer all our questions, it certainly points to the fact that retraining is necessary. Imagine that a patient is trained about peritonitis at the outset of PD and does not (hopefully) have the first episode of peritonitis until 3-4 years later. This is a wonderful outcome---but not if the patient has forgotten the symptoms and appropriate responses. So periodic retraining is obviously needed but just exactly when and how often is an unanswered question deserving further research.

Evaluating your training program:

- Track patient outcomes
 - Infection rates
 - peritonitis, ESI, TI for PD
 - ESI and sepsis for HD
 - Hospitalization rates
 - Deaths
 - Transfers off home therapy
- Periodic reassessments of patient technique and problem solving

Summary

- Nurses can provide outstanding training for their patients if they apply the principles of learning.
- We need to establish standards for home training (PD and HD).
- We need to evaluate the outcomes of various training methods to determine the best approach for patients.
- **Future research**
 - Randomized trials of different training techniques, times, places, trainers.
 - compare outcomes of current practices

Question #1

- The principles of adult education indicate that the best way to teach PD to patients is to
 - A. Provide them with a video to practice on their own.
 - B. Always practice doing exchanges using their own PD catheter.
 - C. Explain the principles of sterile technique after they learn how to do a procedure .
 - D. Begin to practice procedures only after learning the steps while watching the trainer perform them.
 - E. Determine if a patient is highly motivated as they will learn at a much faster pace.

- Question #1: Correct answer = D

Question #2

- Which of the following statements about PD patient education is true?
 - A. A thorough knowledge of PD will adequately prepare the nurse to train patients.
 - B. Patients with the most experienced trainers will have the lowest rates of peritonitis according to a recently published study.
 - C. The number of hours and days needed to train a patient for PD is well established in the literature.
 - D. The patient must be able to recognize a contamination and know the appropriate responses before being sent home from training.
 - E. The role of the nephrologist is to assure that patients are carefully selected for PD.
 - F. A skilled trainer can assist with clinics and other duties while training a patient for PD.

- Question #2: Correct answer = D