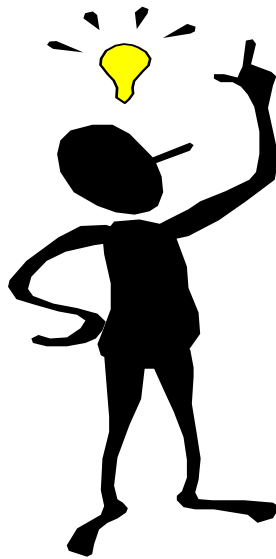


PRE-HEART TRANSPLANT TEACHING



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I. TRANSPLANTATION

Is a treatment option available to patients that experience heart failure it is not a “miracle cure”.

A. Etiology for Transplant Referral:

1. Importance of life modifications (energy conservation), medications, follow-up care re: to CHF and optimal level of function
2. Understanding of why heart transplant evaluation is occurring
3. Demonstrates interest in pursuing heart transplant
4. Offer visit with other transplant patients

B. Responsibilities with Transplantation:

1. Managing your transplanted heart for a lifetime
2. Taking many daily medications (up to 15)
3. Attending regular clinic visits
4. Having lab work, biopsies, stress echocardiograms, echocardiograms frequently
5. Daily choices such as weight maintenance, exercise, cessation of smoking/alcohol/recreational drug use
6. Financial responsibilities

C. Risks with Transplantation:

1. No guarantees
2. Medication side effects
3. Rejection of transplanted heart
4. Increase risk of infection
5. Increase risk of malignancy

II. STATISTICS/SURVIVAL RATES:

1 Year Survival

99%

3 Year Survival

94%

5 Year Survival

88%

III. PRE-TRANSPLANT EVALUATION

A. Clinic Appointment:

History and physical performed by physician to identify problems and determine if a transplant is the best option for you

- B. **Social Work Consult:**
Discussion of psych-social issues, coping mechanisms, etc.
- C. **Financial Consult:**
Discussion of financial responsibilities, and understanding your transplant benefits
- D. **Transplant Teaching:**
To explain the transplant process, and the responsibilities and expectations after transplant
- E. **Echocardiogram/MUGA:**
To determine ejection fraction (EF), normal EF >50%, transplant EF <25%
- F. **Heart Catheterization and Angiogram:**
To determine the pressure in the lungs, pulmonary vascular resistance (PVR) and heart pressures
- G. **EKG:**
To rule out heart rhythm abnormalities
- H. **Chest X-ray:**
To rule out lung abnormalities, and establish chest size and room available for transplanted heart
- I. **Carotid Dopplers:**
To rule out blockages in the arteries to your head
- J. **Lower Extremity Dopplers:**
To rule out blockages in the arteries to your legs
- K. **Pulmonary Function Studies (PFT'S) with Arterial Blood Gases:**
To rule out lung disease such as, emphysema, chronic obstructive pulmonary disease, etc.
- L. **Cardiopulmonary Exercise Exam (CPX):**
To determine your functional level

III. **PRE-TRANSPLANT EVALUATION (CONTINUED)**

- M. **Blood Tests:**
Blood tests checking for: tissue typing, blood typing, HIV, hepatitis, syphilis, cytomegalo virus, toxoplasmosis, renal function, liver function, stool for blood, etc.

- N. **Sigmoidoscopy (if >50 years of age):**
To rule out colon disease
- O. **Mammogram (if female >35 years of age):**
To rule out breast cancer
- P. **Pap Smear (if female >18 years of age):**
To rule out cervical cancer
- Q. **Dental Clearance:**
To rule out dental problems
- R. **Additional Testing/Consults:**
If any of the above show abnormalities, you may be required to undergo further testing or consultations to rule out the specific problem
- S. **Return clinic visit to discuss the outcome of your evaluation:**
You may be requested to come back to clinic several times during the evaluation for any number of reasons

IV. UNOS LISTING

Is done with the national organization called United Network for Organ Sharing. This is the organization that provides transplant and procurement centers with rule and guidelines.

A. UNOS list Status:

1. Status 1A: any one in an intensive care unit on high dose IV medications; assist device for 30 days or less or any other mechanical support (artificial heart, balloon pump, ventilator); or life expectancy less than 7 days
2. Status 1B: assist device for more than 30 days and/or continuous IV medications
3. Status II: all other actively listed transplant candidates
4. Status 7: all inactively listed transplant candidates

B. Organ Procurement Agency:

1. For the Sacramento region it is Golden State Donor Services.
2. Identifies donors and manages them during the harvesting period

C. Donor Matching Process:

1. Donors are matched to the recipient by height weight and blood type
2. Donor information is kept strictly anonymous
3. Transplant surgery can be called off at any time based on donor condition, weather conditions, or recipient condition

V. WAITING PERIOD

Is on average 9-12 months. This makes the waiting period the hardest time. Up until now there has been a lot of activity to complete the evaluation, during the waiting period there is not as much happening. Also, the recipient will have good days and bad days which contributes to the stress of waiting.

A. Resources to be used:

1. Social Worker
2. Transplant Coordinator
3. Church supports
4. Articles

B. Communication plan and pager function:

1. Phone tree to communicate to others at the time of transplant
2. Test pager daily (pager requires a touch-tone phone to test)
3. Keep spare batteries with you at all times for the pager
4. Have recipient discuss radius of pager with company providing the pager.

C. Transplant preparedness bag to include:

1. New pair of sweats with a pocket
2. Comfortable pair of shoes or slippers
3. New toothbrush and tube of toothpaste
4. Notepad and pen
5. Reading glasses (if needed)
6. For those gentlemen who use a straight razor, a new straight razor with new blades
7. Anything that the recipient's support person might need e.g.; medications, reading materials, snacks phone numbers, etc

D. Notifying Transplant Clinic of:

1. Any changes in address or telephone numbers
2. Any changes in insurance
3. Results of your annual physical, health screenings (mammogram, PAP smears, sigmoidoscopy, etc.)
4. Any changes in your current health status or other changes in your health condition e.g. the diagnosis of any new diseases, plans for major surgery, hospitalizations
5. Any plans for out-of-town trips, call us ahead of time and let us know how to reach you

VI. TRANSPLANT HOSPITALIZATION AND SURGERY

A. The Transplant Call:

1. The call can come at any time of the day or night therefore, you must call any number that shows up on your pager. Be careful when you call that you do not give too much identifying information, in the event that it was an incorrect page.
2. If the coordinator is not able to contact you within a certain time period, the coordinator will move on to the next recipient on the list.
3. Nothing to eat or drink from the time of the call.
4. Remember there is always a "50-50" chance that the surgery could be called off, for any number of reasons.
5. ETA to hospital will be discussed with the coordinator, as well as where to report.

B. Pre-surgery preparation:

1. Repeat chest x-ray, EKG, blood work
2. Hibiclens shower or bath
3. Surgical shave-prep that will include the removal of beards
4. Signing of consents (consents are included in the pre-teaching packets and should be read and discussed and any questions asked prior to listing)
5. Coordinator will discuss the timing of the surgery, family waiting room, and approximate times of family updates during the surgical procedure

C. Surgery:

1. General anesthetic is used
2. Heart-lung bypass machine is used
3. Length of surgery is approximately 3-4 hours from prep time to completion
4. Most critical time is when recipient is coming off of bypass

VI. TRANSPLANT HOSPITALIZATION AND SURGERY (CONTINUED)

D. Post-surgery:

1. Recipient to Intensive Care Unit (ICU), it requested at this time that the family/support system go home after the final physician update, since the ICU will need time to settle the recipient into his/her room. Length of time in ICU is approximately 24-48 hours.
2. The recipient is extubated at approximately 4-8 hours after transplant
3. Please limit the visitors into the ICU to immediately family only. Also, a direct telephone number into the ICU will be given to recipient's support system, please limit the number of people calling to 1 main point person. Remember, the nurse has to leave the recipient each and every time someone calls to inquire about the transplant recipient
4. After 24-48 hours the recipient is moved to the Transplant Unit where there is more room and flexibility to accommodate visitors
5. Please ask any visitors who feel like they may be getting sick to stay away.
6. Teaching, and a rigorous exercise program will be started when the recipient is transferred to the Transplant Unit
7. Length of stay is approximately 7-10 days

VII. MEDICATIONS

You will need to take immunosuppressive medication as long as you have your transplanted heart. The medications, dosages and side-effects will be different for each transplant patient. Due to the side effects of these medications, you will be required to take additional medication to decrease the side effects.

A. Immunosuppressive Medications:

1. PREDNISON: acts to suppress the body's immune response to the transplanted heart.

Side effects:

- Changes in your physical appearance e.g.; round cheeks, increased body and facial hair growth, acne
- Increased appetite
- Increased susceptibility to infection
- Excess stomach acid and increased risk to developing ulcers
- Increased skin bruising/injuring
- Increased sun sensitivity
- Slower wound healing
- Increased risk of osteoporosis
- Muscle weakness
- Diabetes
- Cataract formation
- Mood swings

2. NEORAL: acts to suppress the body's immune response to the transplanted heart

Side effects:

- Kidney damage
- Liver damage
- Increase hair/nail growth
- High blood pressure
- Mild tremors, especially in the hands
- Increased risk of infection
- Headache
- Swollen gums

3. CELLCEPT: acts to suppress the body's immune response to the transplanted heart

Side effects:

- Nausea/vomiting
- Diarrhea
- Increased risk of infection
- Increased risk of malignancies

VII. MEDICATIONS (CONTINUED)

B. Other possible medications:

1. Antifungals (Nystatin) to help prevent fungal infections e.g. thrush
2. Antivirals (Acyclovir, Ganciclovir) to help prevent specific viral infections e.g. CMV
3. Antibiotic (Septra) to prevent specific infections e.g. pneumocystis pneumonia
4. Antihypertensives to lower blood pressure
5. Diuretics (Lasix) to help rid the body of excess fluid
6. Antacids (Maalox) to help protect the stomach from irritation
7. Multivitamin
8. Vitamin D and Calcium to protect bones
9. Enteric coated aspirin
10. Cholesterol lowering medication

VIII. RECORD KEEPING

It is important to maintain accurate records while you are waiting for your new heart, as well as after transplant. Meticulous record keeping will help you and your transplant team better manage your health

A. Important to help you identify potential problems

B. Transplant note book:

1. Daily record of:
 - Blood pressure
 - Weight
 - Temperature
 - Blood sugar (if applicable)
2. Monitor closely for:
 - Swelling
 - Urine output
 - Signs and symptoms of rejection
 - Medication changes

IX. FOLLOW UP

A. Pre-transplant clinic visits:

While you are on the waiting list, you will be followed intermittently by the transplant team as well as your cardiologist and primary care physician. If you have any medical concerns, you would contact your primary care physician or cardiologist for care not the transplant team, however we do request that you contact the transplant clinic with any changes that occur. In the transplant clinic you will be seen by the dietician, social worker, coordinator, and physicians to monitor your pre-transplant course.

B. Post-transplant clinic visits:

After transplant you will have weekly clinic visits and biopsies. If you have no significant rejection of your transplanted heart, the clinic visits and biopsies will progress to every 2 weeks then to every 3 weeks etc. until after approximately 2 years when they will become annual clinic visits and biopsies.

C. 24 hour on-call transplant coordinator:

A transplant coordinator is on-call 24 hours a day for urgent or emergent calls that cannot safely wait until normal office hours, Mon-Fri 8:30 a.m. – 5:00 p.m.