Supportive Cancer Care: A 35-Year Retrospective and what’s cool about palliative care, or How did I end up doing what I’m doing?

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Themes from a career in Supportive Oncology

1. Work to make the type of health care you’d like better and more affordable.
   - Virginia’s Rural Cancer Outreach Program (RCOP)
   - The Thomas Palliative Care Unit and Program at VCU-MCV
   - The Harry J. Duffey Family Palliative Care Program at Johns Hopkins.

2. Bring your whole self to the therapeutic encounter. (Ira Byock)

3. Emphasize communication of important results.
   - Personal communication with patients – the importance of truth telling.
   - Communication about important issues in the field.
   - Communication (and convincing) leaders in the field.

4. Have fun along the way.

5. Always keep researching.
   - Improve symptom assessment and management.
   - There is room for improvement in most of Supportive Oncology.

6. Some Pearls.
Use your experience: Oxybutynin (Ditropan®) for hot flashes and maybe neoplastic swetts and fevers

Oxybutynin for Hot Flashes Due to Androgen Deprivation in Men

TO THE EDITOR: Nonhormonal treatments used for menopausal hot flashes in women have generally been found to have limited efficacy against hot flashes induced by androgen deprivation for the treatment of prostate cancer in men. Gabapentin and venlafaxine have been found to have limited efficacy. Megestrol acetate, although modestly effective, can have hormonal side effects; it has also been associated with decreases in levels of prostate-specific antigen (PSA) after withdrawal that suggest stimulation of tumor growth by the drug and, when the drug is used to treat cachexia, it has been associated with rapid growth of metastatic prostate cancer. Oxybutynin is effective for refractory hot flashes in women; in one randomized trial, 73% of

Smith TJ, Loprinzi CL. NEJM 2018


“Oh my gosh, that helped sooooo much.”

Leon Ferre, R, et al. JNCI Cancer Spectrum 2019
1988: There was profound excess cancer mortality in Virginia rural areas, especially with African-Americans.

- High African-American %
- High poverty rate
- High Medicare/Medicaid
- ~50 bed hospitals with no cancer care but surgery
- Expensive and difficult to travel

Worse than Whites
Rural Cancer Outreach 1988- present

- To provide state of the art oncology care in rural areas of Virginia that are medically underserved and have limited resources
- To include clinical trials
- And palliative and hospice care
APN-led needs assessment: the hospitals said we need cancer services here
So we went to all 5 rural hospitals

- Experiment of the Cancer Control Program at MCC, an NCI center
- Initial seed money came from a private donor
- Limited small state budget item
- 2 MDs and 2 APNs traveled to 5 rural 50-100 bed hospitals
- Trained 3-5 RNs to be ONC RNS
- State of the art care inc. clinical trials
- AND ALWAYS included palliative care

Tom Smith, Chris Desch MD, Susan Robinson APN

Not pictured: Cyndy Simonson APN, Nancy Kane APN, Alison Ryan APN, Kevin Bringle APN
So we went to all 5 rural hospitals

- Lumpectomy + radiation 0% to 60%
- Use of morphine increased 700% for cancer pain
- Nearly 100% of eligible patients got adjuvant (post or pre op chemo) when indicated
- Marked reduction in vomiting and infections
- Highly profitable for rural hospitals

Tom Smith, Chris Desch MD, Susan Robinson APN

Not pictured: Cyndy Simonson APN, Nancy Kane APN, Alison Ryan APN, Kevin Bringle APN
After establishing ourselves as providers, we could branch out to the community for prevention.

Goals for Health: diet and exercise intervention for elementary and middle schools in Brunswick County.

And we got Rural Cancer Outreach (with concurrent Palliative Care) written into the NCI requirements for being an NCI-designated cancer center.
Have some fun. Find some role models.

If they want to know what’s gonna happen to them, go ahead and tell them. Fix what you can.
Galen Wampler MD

Find something that you are passionate about, and work on it. Don’t worry about things like promotion, etc. Really.
- I. David Goldman MD

You gotta use some of these new drugs before someone shows they don’t work!
-Susan Mellette MD

I. David Goldman, MD
Director, Albert Einstein Cancer Center

Former Masonic medical oncologist Susan J. Mellette, M.D.
Have some fun.
Have some fun. Find some colleagues.

EARLY-1990s

- The Wisconsin Cancer Pain Initiative, WHO funded
- A group of young oncologists became interested in communication, symptom management
- We started writing national guidelines at ASCO based on health service research, a new field
  - White cell growth factors
  - Lung cancer treatment
  - Prostate cancer treatment
  - Breast cancer surveillance
Vignette: can a palliative care program serve the medically underserved and racial minorities?

- Historical: minorities less likely to use hospice/palliative care by ? Fold
  - in RO1 AHCPR-funded MCC study, predictors of hospice use included older age, white race, married, better SES as reflected in neighborhood median income, less comorbidity underuse of hospice by about 50%
  - unclear if opportunity, mismatch of goals and perceptions of health care system
First, an ad for palliative care

“Palliative care is specialized medical care for people with serious illnesses. This type of care is focused on providing patients with relief from the symptoms, pain, and stress of a serious illness - whatever the diagnosis. The goal is to improve quality of life for both the patient and the family.

Palliative care is provided by a team of doctors, nurses, and other specialists who work with a patient's other doctors to provide an extra layer of support.

Palliative care is appropriate at any age and at any stage in a serious illness, and can be provided together with curative treatment.”

— Diane Meier, MD, Director, Center to Advance Palliative Care

Palliative care is expert symptom assessment and management, open and honest communication, and medically appropriate goal setting.

- Tom Smith
Early outpatient palliative care improves survival in multiple randomized trials. Worse in none.

Smith JCO 2002; Ann Onc 2005
Pain control → longer OS

Bakitas JCO 2015, Ca pts

Bakitas JAMA 2009, ca pts

Higginson Lancet Resp Dis 2015
Refractory breathlessness

Grudzen K JAMA Onc 2016, Ca pts in ED

Temel NEJM 2010
NSCLC, MGH

Ferrell JPSM 2015
Lung ca
Lung cancer patients lived almost 3 months longer if they got concurrent palliative care in addition to usual oncology care


- 20 minutes on symptoms
- 10 minutes on illness understanding
- 15 minutes on coping
  - Better QOL
  - Better understanding of prognosis
  - Less depression, anxiety
  - 2.7 months longer survival
  - No additional cost
Reporting and acting upon symptoms leads to better survival


6 of 100 ALIVE due to symptom control ASK!
Reporting and acting upon symptoms leads to better survival.

From: Two-Year Survival Comparing Web-Based Symptom Monitoring vs Routine Surveillance Following Treatment for Lung Cancer

Ask about symptoms and encourage people to report – it could save a life.
Use a scale

- Patients volunteered ONE symptom
- Scale found TEN, 53% distressing
- If you find a symptom, inquire further


<table>
<thead>
<tr>
<th>Symptom</th>
<th>Scale</th>
<th>Distressing</th>
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<tbody>
<tr>
<td>No Pain</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td>Worst Pain</td>
</tr>
<tr>
<td>No Fatigue</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td>Worst Fatigue</td>
</tr>
<tr>
<td>No Nausea</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td>Worst Nausea</td>
</tr>
<tr>
<td>No Depression</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td>Worst Depression</td>
</tr>
<tr>
<td>No Anxiety</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td>Worst Anxiety</td>
</tr>
<tr>
<td>No Drowsiness</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td>Worst Drowsiness</td>
</tr>
<tr>
<td>No Shortness of Breath</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td>Worst Shortness of Breath</td>
</tr>
<tr>
<td>Best Appetite</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td>Worst Appetite</td>
</tr>
<tr>
<td>Best Feeling of Well-being</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td>Worst Feeling of Well-being</td>
</tr>
<tr>
<td>Best Sleep</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td>Worst Sleep</td>
</tr>
<tr>
<td>No Financial Distress</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td>Worst Financial Distress</td>
</tr>
<tr>
<td>Distress (suffering experienced secondary to financial issues)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Spiritual Pain</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td>Worst Spiritual Pain</td>
</tr>
<tr>
<td>(Pain deep in your soul/being that is not physical)</td>
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<td></td>
</tr>
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</table>

How are you coping?
American Society of Clinical Oncology now strongly recommends *concurrent* palliative care

- For **every advanced cancer patient**, based on the evidence
  - By an interdisciplinary team
  - Concurrent with oncology care
  - Within 8 weeks of diagnosis
Vignette: can a palliative care program serve the medically underserved and racial minorities?

- Created the Thomas (Hospice) Palliative Care Unit 5/1/00 to serve ALL patients in central VA
- of first 237 patients, 56% African American -- the same as the rest of the hospital
- High patient satisfaction rate, better benchmarks
  - 100% use of VAS pain scores, chaplain involvement
Cancer patient symptoms are improved by PC consultation or transfer, with no change in mortality

Memorial Symptom Assessment Scale, Condensed
30 pts with at least 2 consult days and symptoms > 0
Khatcheressian J, Coyne P, Smith T. Oncology September 2005
Lower Cost Per Day After Transfer To Palliative Care

Won’t happen unless MDS have “the talk”:
Review orders
- oxygen
- antibiotics
- tube feeds
- multiple meds

All p values < 0.001
• On PCU, high volume standardized end-of-life care is much less expensive and variable than elsewhere in hospital.

• “Cost avoidance” by transfer of patients
  – In the 1st 2 years, TPCU lost $90,000 but saved the health system ~$1,800,000
Publish where those who matter will see it

“I want to send a team down to learn how to do this palliative care....”

Final Days
Unlikely Way to Cut Hospital Costs: Comfort the Dying

$7000 less in last 5 days of life if PC involved.
With equal survival.
And better symptom control.
Palliative care has a positive financial impact on the institution – and reduces public health spending

- The total positive financial impact of the PC program for FY 2013 was $3,488,863.17.
- $452/day for each PCU transfer
- Consult savings were higher: $2,374 alive discharges and $6,871 decedent discharge
- Hepatology RNs unhappy
- Not allowed to staff with APNs (per DOM) so closed to concentrate on consults

Scrambler Therapy primer

The electrode gel pads go above and below the pain, on the dermatomes that go to the pain.

We may be capturing the surface receptors for the C-fibers that carry the pain impulses, and sending a “non-pain” signal along the same pathway as the current “pain” signal.

Treatment takes 30-45 minutes daily until the pain is better, or nothing good happens.

This appears to reset the pain pathway and allow the nerves to function more normally.
Treatment of taxane-CIPN with Scrambler Therapy

Taxol Neuropathy, 7 months
• C7-C7
• L5-L5 - sole
• L4-L4

Pain Scores Pre and Post

<table>
<thead>
<tr>
<th></th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>6 months</th>
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<tbody>
<tr>
<td>Pre</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Post</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>
Direct Nerve Related therapies work: spinal cord stimulation devices

- Spinal cord stimulation reduces pain by 60% or more
  - Invasive, permanent, expensive
  - Pain replaced by tingling sensation
Treatment of CIPN with Scrambler Therapy

Numbness, tingling and pain all reduced c/w TENS
Pain helped more than numbness or tingling
Neuromodulation decreases pain by 50%, improves NQST, and regulates serum neuro-cytokines in LBP patients

<table>
<thead>
<tr>
<th></th>
<th>Scrambler Therapy (n = 15)</th>
<th>Sham (n = 15)</th>
<th>( P_{\text{group} \times \text{time}} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain Scores “Worst”</td>
<td>3.25</td>
<td>5.81</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>QST Measure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat pain threshold (C) (range 32–50)</td>
<td>44.34</td>
<td>41.41</td>
<td>.01</td>
</tr>
<tr>
<td>Single stimulus rating (48°C) (range 0–100)</td>
<td>46.0</td>
<td>50.2</td>
<td>.04</td>
</tr>
<tr>
<td>Pressure pain threshold (kPa) (range 100–600)</td>
<td>497</td>
<td>354</td>
<td>.05</td>
</tr>
<tr>
<td>NGF Fold Regulation</td>
<td>-2.6</td>
<td>0</td>
<td>.0040</td>
</tr>
<tr>
<td>Fold Regulation mRNAs for BDKRB1, CACNA1B, CHRNA4, GDNF, GRM1, NGF, NTRK1, OPRD1, PENK, and PLA2G1B.</td>
<td>-1 to -2.5</td>
<td>0</td>
<td>All &lt; 0.01</td>
</tr>
</tbody>
</table>
HIV neuropathy. 10/10 before, 2/10 after. Markedly less stiffness. Able to feel his feet and balance – first time since 1998. OFF opioids for 18 months.

- 2nd case in Italy with similar results.
Treatment of post-mastectomy and radiation pain

- Post-mastectomy pain like “a barbed wire bra”
- Pain 8-10/10 before
- 0-2 after 5 treatments
- Resumed painting, relatively normal life
- Returned 3 months later, responded well

Treatment of post-thoracotomy pain

Allodynia resolved quickly
Pain relieved in 15 minutes
Lasted 5 months
Easily retreated with success

Scrambler therapy and post herpetic neuropathy

10 people with refractory PHN

![Figure 1: Effect of Scrambler Therapy on Post Herpetic Neuropathy Pain](image-url)
Scrambler Therapy was better than sham in neuromyelitis optica spectrum disorder (NMOSD)

NMOSD Scrambler Therapy versus sham

4/11 ZERO pain

With booster sessions, 2 are completely pain free months later

One for the first time in 12 years

Auriculotherapies

Acupressure

Acupuncture

Electroacupuncture

What is Auricular Point Acupressure?
Some other things you will hear about – auricular acupressure

Dramatic reductions in inflammatory proteins and increases in anti-inflammatory ones
Normalization of brain patterns on fMRI
Theoretical Models: Neurochemical

APA can decrease proinflammatory cytokine and increase anti-inflammatory cytokine (N=61)

**Before**

- **Pro-inflammatory**
  - IL-β, TNFα, CGRP

- **Anti-inflammatory**
  - IL-4, IL-10

**After**

- **Pro-inflammatory**
  - IL-β, TNFα, CGRP

- **Anti-inflammatory**
  - IL-4, IL-10

**HIGH PAIN**

- **4 WEEKS APA**

**PAIN**

**APA can decrease proinflammatory cytokine and increase anti-inflammatory cytokine (N=61)**

Theoretical Models: Neurophysiological (fMRI)

Brain area activation following APA stimulation exhibited increased activity at Anterior Cingulate Cortex (ACC) and Dorsal Lateral Prefrontal Cortex (DLPFC).


Mark Rothko - Black in Deep Red
NavTip1: Medications and talk therapy really do work.

“A note for physicians: if you listen carefully to what patients say, they will often tell you not only what is wrong with them but also what is wrong with you.”

- Walker Percy MD, Love Among the Ruins, 1967
- Made me a much better doctor.
On duloxetine for hot flashes. Was getting more depressed so psychiatrist raised to 120 – and got more suicidal

Couldn’t exercise or run well, very fatigued.

_Hospitalized for a week to prevent me from killing myself. Chester Bennington, Dolores O’Riordan, Kate Spade, Anthony Bourdain._

“18 studies with 169,000 individuals, there was a 41 percent increase in the risk of depression” - UTD
Brush 1, redux. Depression.

Off duloxetine, all suicidal notions went away.

Mood stabilized on Mirtazapine (Remeron), now bupropion

Wrote about hot flashes to stimulate interest in better control – NEJM letter.

NavTip7: Do not kill yourself. Your family will never be the same. Get some help. There is no shame.