

M.E. at Sea 2025

Breast Imaging of Transgender and Gender Diverse Patients

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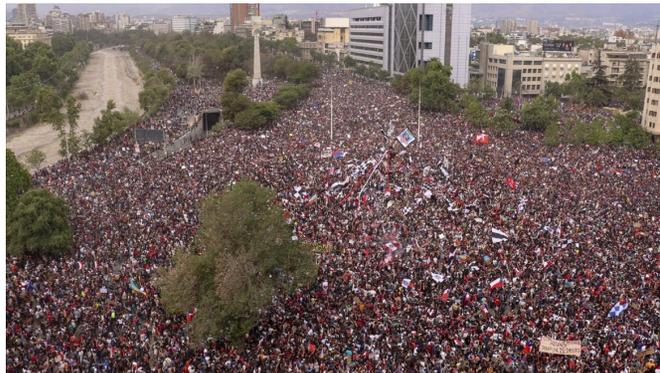
In the United States...

- A minimum of 1.4 million adults identify as transgender
- The transgender patient population experience disparities in breast care access and breast healthcare outcomes.
- Challenge to breast care delivery is lack of evidence-based screening guidelines.



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Source: Wagas Ahmed/Quora

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Gender Identity – **Cisgender**

Cisgender describes people whose gender identity aligns with the sex they were assigned at birth.



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Gender Identity – Transgender

Transgender is a general term that describes people whose gender identity, or their internal sense of being male, female, or something else, does not match the sex they were assigned at birth.



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Gender Identity – Transgender

- Female to Male (FTM) – assigned the gender of female at birth, but legally living as a male.
- Male to female (MTF) – assigned the gender of male at birth, but legally living as a female.



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Gender Identity – Transsexual

- Describes someone who is transitioning from one sexual classification into another.
- Implies someone who is having surgery or taking hormones, or doing other medical interventions to align their body with their preferred sex.



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Gender Identity – Transsexual

“**Transsexual** is a more clinical term which had historically been used to describe those transgender people who sought medical intervention (hormones, surgery) for gender affirmation. This term is less commonly used in present day; however, some individuals and communities maintain a strong and affirmative connection to this term.”



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Source: Cronin and Stockdale (2021)

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Gender Identity – Genderqueer

Genderqueer – “to, or being a person, whose gender identity cannot be categorized as solely male or female.”

- Used by younger people
- Unconventional
- May flout (openly disregard) by expressing themselves in shocking ways.



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Source: Merriam Webster (2019)

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Gender Identity – Genderqueer

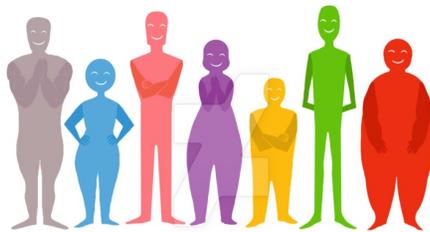
- Both man and woman (e.g., androgyne)
- Neither man nor woman (e.g., agender, neutrois, non-gendered)
- Moving between two or more genders (gender fluid)
- Third gendered or other-gendered (e.g., genderqueer or non-binary to describe gender without labeling)
- Having an overlap or blur of gender and orientation and/or sex (e.g., girlfags and guydykes)
- Those whose “queer” gender, in presentation or otherwise who may or may not see themselves as non-binary or having a gender that is queer; this category may also include those who are consciously political or radical in their understanding of being genderqueer.



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GENDER-QUEER



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My shape and sex does not define my gender.
Neither does my choice of clothes, style or interests!
Not even the way I walk, talk or act.

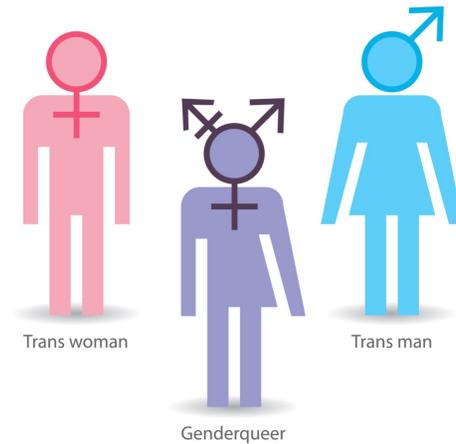
My personality, my sexuality and whom I love got nothing to do with it either.
My gender is inside my head, and it's a wide spectrum of colour and variants.
I am who I am, I am just me, and I am only who I say I am and nothing else.

Art by: <http://indistocomer.tumblr.com/>



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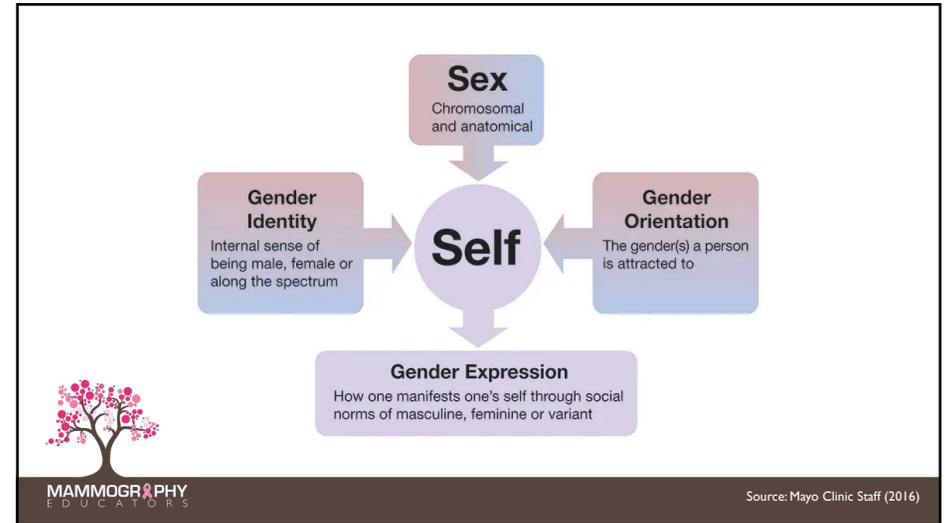
What you see is not always what you get...

- The presence of male or female genitalia corresponds to whether a person is female or male.
- For less than 1% of population, the visible parts and the inner identity do not line up.



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Source: Mayo Clinic Staff (2016)

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Scientific Studies Show...

- It is possible to be born with:
 - Male genitalia but female chromosomes, or vice versa
 - Female genitalia, female chromosomes, but a male brain
- For most of us, we hit the jackpot — our anatomy, chromosomes, and brain all align with the sex we were born into.



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Source: Saey (2025)

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Biological Sex vs. Gender

Biological Sex:

- Scientific classification
- Sex assigned at birth
- Genitalia and external secondary sex characteristics (i.e., breasts, facial hair)

Gender:

- Sexual construct
- Has changed throughout the centuries, cultures and societies
- How a person displays their gender
- Includes choices in clothing, hairstyle, speech and mannerisms
- Gender beliefs such as: pink is for girls and blue is for boys; women should wear dresses and men should wear pants



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Challenges of Breast Care Delivery

- Lack of evidence-based studies for screening guidelines
- Gender affirming surgeries and hormone interventions that impact imaging appearance of breasts and risk of breast cancer
- Incidence of breast cancer in transgender women is higher than natal males but lower than natal females
- Implying that addition of estrogen increases cancer risk



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Risk and Screening Recommendations Transgender Women

- Previous publications suggest transgenders females with risk factors have screening mammograms after 5 years of hormone therapy
- Until additional data is provided, transgender women with risk factors that have been receiving hormone therapy for > 5 years follow the breast cancer screening guidelines for natal females



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Risk and Screening Recommendations Transgender Women

After a published study by DeBlock et al, it was determined that transgender women with no risk factors that have been receiving hormone therapy for > than 5 years should have a discussion with their provider to make an individualized discussion with their provider



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Risk Factors for Transgender Women

- BRCA mutations
- Chest irradiation
- Family history of breast cancer

Breast augmentation does not alter breast cancer risk



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Breast Cancer in Natal Males

- "Natal male" refers to a male person's sex assigned at birth, based on their physical characteristics.
- Breast cancer in natal males are only <1% of breast cancer cases in the US.
- Transgender women without risk factors that have been having hormone therapy < than 5 years are thought to have a cancer risk closer to natal males.



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Breast Cancer in Natal Males

Risk factors:

- BRCA mutations
- Radiation exposure to chest
- Undescended testes
- Advanced age
- Klinefelter syndrome

Symptoms:

- Painless palpable lump
- Irregular mass with or without calcifications



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Factors Affecting Those with Gender Identity Disorder

- Suffer clinically significant distress
- According to the American Psychiatric Association, document if untreated:
 - Psychologic dysfunction
 - Depression
 - Suicidal ideas
 - Death



Source: The University of Maine Counseling Center



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Source: Branstetter (2024)

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2011 Healthcare Survey

- More than 6,000 transgender participants
- 19% reported denial of healthcare delivery because of their non-conforming gender status
- 28% had postponed necessary healthcare when sick or injured
- 14% delayed or ignored their preventative care



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Another Survey Showed Health Care Workers...

- Refuse to touch them (i.e., transgender patients)
- Use excessive precautions usually reserved for contagious conditions
- Use abusive language
- Are unnecessarily rough or abusive
- Blame transgender patients for their own health conditions
- Exhibit inappropriate behavior such as laughter, pointing, yelling, mockery and/or negative comments



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Interpreted as Discrimination

- Affordable Care Act (ACA) provides anti-discriminatory provisions, which include prohibitions on sex discrimination that apply to certain healthcare providers and insurers receiving federal funding.
- 2020 Rule – no legal rule that a facility has to provide any service that might be included in the Affordable Care Act



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TRANSGENDER AND GENDER NON-CONFORMING

PEOPLE EXPERIENCE
DIFFICULTY ACCESSING
SAFE AND INFORMED
HEALTHCARE, ACCORDING
TO THE NATIONAL
TRANSGENDER
DISCRIMINATION SURVEY

FIGURES VIA 2011 NATIONAL TRANSGENDER
DISCRIMINATION SURVEY

 19
PERCENT

- Reported they were refused care because of their gender identity

 28
PERCENT

- Reported they were subjected to harassment in medical settings

 50
PERCENT

- Reported having to teach a medical professional about transgender healthcare



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Accommodating the Transgender Patient

- Must address their medical needs
- Must ensure they are treated appropriately and respectfully
- Simple general policies for nondiscrimination are not enough



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Accommodating the Transgender Patient

- Put things in perspective
- No current data available
- Many transgender patients have not received medical care recommendations



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Guidelines for Care

Written guidelines for **Primary and Gender Affirming Care of the Transgender and Gender Nonbinary People** are provided by:

- UCSF Center of Excellence for Transgender Health
- Fenway Health in Boston
- University of California-Davis
- US Centers for Disease Control and Prevention (CDC)
- Mayo Clinic

... and many more!



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Gender Identity-Two Step

What is your gender identity?

- Male
- Female
- Transgender Man/Transman
- Transgender Woman/Transwoman
- Genderqueer/Gender nonconforming
- Additional identity
- Decline to state

What sex were you assigned at birth?

- Male
- Female
- Decline to state



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Female to Male (FTM) Transgender Patients



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Top Surgery

- Usually, bilateral subcutaneous nipple sparing bilateral mastectomy
- Tissue is sent for pathological analysis
- Many FTM patients do not have bottom surgery
- Ovaries and uterus remain



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What's the Difference?

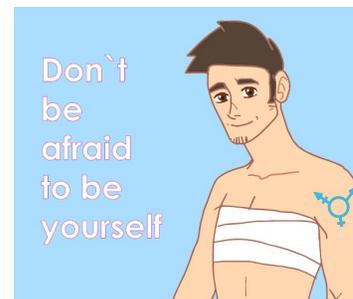
- Mastectomies are different than top surgery, as not all breast tissue is removed.
- Top surgery leaves enough tissue to contour the breast.
- Patients are given testosterone therapy as soon as the mastectomy is complete.
- Some FTM choose no surgery and instead choose to bind their breasts.



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Binders



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Source: Sohn (2019)

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Bottom Surgeries

- Hysterectomy
- Ring Metoidioplasty or Ring Flap Metoidioplasty
 - Ring metoidioplasty uses a flap of tissue from the anterior vaginal wall, along with the labia minora, to create the urethral extension. It does not include a vaginectomy but does limit the opening.
- Testicular implants



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FTM Mastectomy



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Source: Foster (2021)

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Hair Transplant



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Source: Bared (2022)

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Facial Hair Growth



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Source: Jae Pak MD Medical (2023)

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Male to Female (MTF) Transgender Patients



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Surgeries

- Genital hair removal
- Labiaplasty
- Vaginal deepening
- Orchiectomy
- Tracheal shave
- Breast augmentation



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MTF Spectrum Risks

- Hormone Replacement Therapy (HRT) has been shown to increase cancer risk in non-transgender women.
- Transgender women may be at increased risk for cancer.
- 2% of all breast cancers occur in the breast of transgender men.
- Being born male does not protect a person from breast cancer.



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Case #1

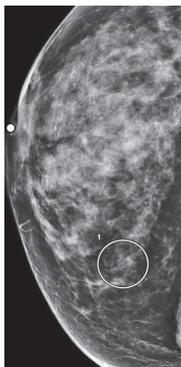
- 65 year old MTF
- Ductal Carcinoma In Situ (DCIS)
- Breast Development-Estrogen
- Premarin for 13 years
- No Breast Augmentation
- Estrogen Positive-Progesterone Positive
- Diagnosed mammography and stereotactic biopsy



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DCIS



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Case #2

- 55 year old MTF
- Paget's Disease and Invasive Ductal Carcinoma
- Breast development silicone injections & estrogen
- Oral and IM Estrogens for 30 years
- No breast augmentation
- Estrogen Positive and Progesterone Positive
- Patient noted bloody nipple discharge
- MRI and ultrasound guided core biopsy

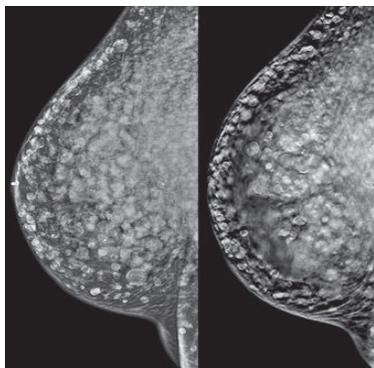


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Source: Maglione et al. (2014)

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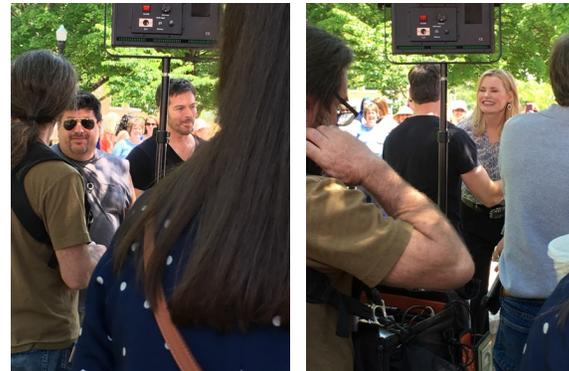
Invasive Ductal Carcinoma



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Bentonville Film Festival



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Georgia Brooke Guinan

- Met her at Bentonville Film Festival
- Screening of **Woman On Fire**
- Transitioning MTF and maintaining her role in NYFD
- Multiple Surgeries



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Georgia Brooke Guinan



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George Guinan



- Third Generation New York Firefighter
- Wrote his mother a letter when he was nine
- Didn't feel right in his body



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George Guinan



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“Woman on Fire” Film (2017)

“About: This portrait of courage under fire celebrates NYC’s first openly transgender firefighter. For Brooke Guinan, fighting fires runs in her blood – both her father and grandfather served in the FDNY. But as a transgender woman, her path to service has not been without obstacles. Transitioning from male to female in what is still an overwhelmingly macho profession proves a challenge for her coworkers and her family, while her boyfriend reckons with the impact of Brooke’s newly public profile on his parents.”



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Source: Sokolov, (2019)

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Available on:

- YouTube - https://www.amazon.com/gp/video/detail/B074XRHTXJ/ref=atv_dp_share_cu_r
- Apple TV - <https://tv.apple.com/us/movie/woman-on-fire/umc.cmc.46a3n93pdlge6xdny8n3qwnkp>
- Amazon – https://www.amazon.com/gp/video/detail/B074XRHTXJ/ref=atv_dp_share_cu_r



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Screening Recommendations



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Screening Recommendations

- This points to a larger problem – not a lot of data is available for guiding transgender patients regarding their hormones.
- While no evidence shows that the hormones transgender patients take increase the risk of cancer, there simply hasn't been much study of it.
- This does not mean that trans people are not at risk.



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Guidelines for the Primary and Gender-Affirming Care of Transgender and Gender Nonbinary People

Publication Date:

June 17, 2016

PENDING REVISION 2025 - awaiting update of Endocrine Society Guidelines

Second Edition

Madeline B. Deutsch, MD, MPH

Editor; *Guidelines for the Primary Care of Transgender and Gender Nonbinary People*

Medical Director, UCSF Gender Affirming Health Program

Professor of Clinical Family and Community Medicine;

University of California, San Francisco



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Screening Recommendations: Transgender Women

- Previous (more than 5 years) or current hormone use in patient 50 years of age or older:
 - Annual mammo if the patient has additional risk factors
 - Estrogen AND progestin use for more than 5 years
 - BMI > 35
- No hormone use – routine screening is not indicated unless the patient has other known risk factors (Klinefelter Syndrome, BRCA Mutation)



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Screening Recommendations: Transgender Men

- Reduction mammoplasty – breast exam and screening mammo, as recommended for natal women
- Bilateral mastectomy – annual chest wall and axillary exams
- Post-operative evaluation – mammography only if patient meets usual natal female criteria



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What can I do?

- Document correctly
- Use appropriate pronouns
- Physical and emotional comfort



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Documentation

- History sheet is a must
- Document hormones
- Implants:
 - Are the implants encapsulated or mobile?
 - If encapsulated, may not be able to do displacement views.
 - Must do an additional Lateral Medial (LM), if unable to displace.



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Appropriate Use of Pronouns

- He/him
- She/her
- They/them (genderqueer)



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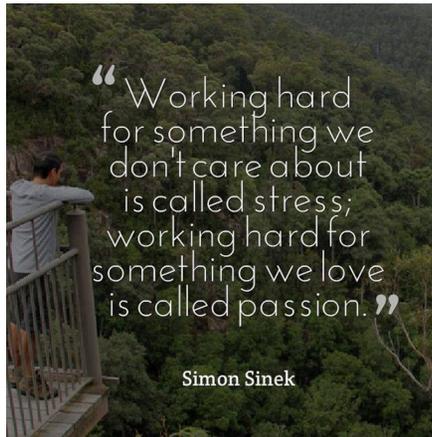
Physical and Emotional Comfort

- Describe the exam and what will happen.
- Ask permission before touching the patient.
- Do not ask probing questions.



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Simon Sinek



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Resources

American College of Radiology

ACR Appropriateness Criteria
Transgender Breast Cancer Screening

Breast Imaging in Transgender Patients

Divya N. Chowdhry, MD and Avive M. O'Connell MD, MA, FACR, FSBi
University of Rochester Medical Center Department of Imaging Sciences
Rochester, NY

American Cancer Society

<https://transcare.ucsf.edu/guidelines/terminology>



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References

- Bared, A. (2022). FTM Transgender Beard Transplantation [Photo]. In Dr. Anthony Bared, MD - Facial Plastic Surgeon. <https://www.facialplasticsurgerymiami.com/blog/beard-transplant-ftm-transgender/>
- Branstetter, G. (2024, September 5). *The Supreme Court Case on Trans Health Care, Explained*. ACLU Tennessee. <https://www.aclu-tn.org/en/news/supreme-court-case-trans-health-care-explained>
- Brown, A., Lourenco, A. P., Niell, B. L., Cronin, B., Dibble, E. H., DiNome, M. L., Goel, M. S., Hansen, J., Heller, S. L., Jochelson, M. S., Karrington, B., Klein, K. A., Mehta, T. S., Newell, M. S., Schechter, L., Stuckey, A. R., Swain, M. E., Tseng, J., Tusciano, D. S., & Moy, L. (2021). ACR Appropriateness Criteria® Transgender Breast Cancer Screening. *Journal of the American College of Radiology*, 18(11), 5502-5515. <https://doi.org/10.1016/j.jacr.2021.09.005>
- Chowdhry, D. N., & O'Connell, A. M. (2020). Breast Imaging in Transgender Patients. *Breast Imaging*, 2(2), 161-167. <https://doi.org/10.1093/bib/ibz029>
- Cronin, B., & Stockdale, C. (2021, March). *Health Care for Transgender and Gender Diverse Individuals*. Wwww.acog.org. <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2021/03/health-care-for-transgender-and-gender-diverse-individuals>
- Foster, C. R. (2021). Here's the Major Difference Between Top Surgery and a Mastectomy [Photo]. In Allure. <https://www.allure.com/story/top-surgery-mastectomy-difference>
- Jae Pak MD Medical. (2023). Beard Transplant Before & After Photos | Jae Pak MD [Photo]. In Jae Pak MD. <https://jepakmd.com/before-and-after/beard-transplant/>



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References

- Maglione, K. D., Margolies, L., Jaffer, S., Szabo, J., Schmidt, H., Wetz, C., & Sonnenblick, E. B. (2014). Breast Cancer in Male-to-Female Transsexuals: Use of Breast Imaging for Detection. *American Journal of Roentgenology*, 203(6), W735-W740. <https://doi.org/10.2214/ajr.14.12723>
- Mayo Clinic Staff. (2016, September 7). *Addressing the challenges of transgender health care* - Mayo Clinic. <https://www.mayoclinic.org/medical-professionals/endorinology/news/addressing-the-challenges-of-transgender-health-care/mag-20429315>
- Merriam Webster. (2019). Definition of GENDERQUEER. Merriam-Webster.com. <https://www.merriam-webster.com/dictionary/genderqueer>
- Saey, T. (2025, February 20). Biological sex is not as simple as male or female. Science News. <https://www.sciencenews.org/article/biological-sex-male-female-intersex>
- Sohn, A. (2019, May 31). Chest Binding Helps Smooth the Way for Transgender Teens, but There May Be Risks. NYTimes. <https://www.nytimes.com/2019/05/31/transgender-teens-binding.html>
- Sokolow, J. (2019). *Woman on Fire* - Julie Sokolow. <https://www.juliesokolow.com/Woman-on-Fire>
- The University of Maine Counseling Center. (n.d.). Depression - Counseling Center - University of Maine. <https://umaine.edu/counseling/depression/>
- University of California San Francisco. (2016, June 17). *Terminology and definitions* | Gender Affirming Health Program. <https://transcare.ucsf.edu/guidelines/terminology>



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