

The Language of Implant-based Breast Reconstruction: Can We Do Better?

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Summary: The management of breast cancer has experienced tremendous changes in the last half-century. In today's multimodal approach to breast cancer, patients have the prospect of achieving a sense of normalcy after mastectomy thanks to advancements in oncology and breast reconstruction. Although the oncologic management of breast cancer has evolved over multiple centuries, implant-based breast reconstruction (IBBR) has only been around since the 1960s. The last half century has seen the conception of multiple techniques, novel devices, and new possibilities in hopes of achieving outcomes that are similar to or even better than the patient's premorbid state. However, with all these changes, a new problem has arisen—inconsistencies in the literature on how IBBR is described. In this article, we will discuss potential sources of confusion in the IBBR literature and lexicon, highlighting specific terms that may have multiple meanings or interpretations depending on perspective, context, and/or intent. As a first step toward clarifying what we perceive as a muddled landscape, we propose a naming convention for IBBR that centers around four important variables especially pertinent to IBBR—the type of mastectomy performed, the timing of reconstruction, the type of device that is placed, and the pocket location for device placement. We believe that adoption of a more standardized, consistent, and descriptive lexicon for IBBR will help provide clearer communication and easier comparisons in the literature so that we may continue to deliver the best outcomes for our patients. (*Plast Reconstr Surg Glob Open* 2022;10:e4482; doi: [10.1097/GOX.0000000000004482](https://doi.org/10.1097/GOX.0000000000004482); Published online 30 August 2022.)

INTRODUCTION

Breast cancer is the most common new cancer diagnosis among women and the second most common cause of cancer death in the United States.¹ Mastectomy is chosen or recommended for approximately 50% of US women with breast cancer, with more than 40% of these women undergoing breast reconstruction.² According to the American Society of Plastic Surgeons, breast reconstruction has increased nearly 40% over the last 20 years, with nearly 136,000 reconstructions performed in 2019 in the United States alone.³ The vast majority (82%) of breast reconstructions are implant-based breast reconstructions (IBBRs).²

As advances in the diagnosis and treatment of breast cancer have occurred, so too have advances in IBBR. The premise of this article is to illustrate how the IBBR literature can cause confusion due to the use of terms that lack consistency and clarity. Similar techniques may have different naming conventions in the literature and/or different techniques may have similar naming conventions that do not distinguish between procedures. This makes discussion, communication, comparison, and study of subtle but important differences among various strategies difficult. The objectives of this article are twofold: (1) to provide historical perspective on the evolution of IBBR techniques to highlight changing terminology and potential sources of confusion, and (2) to propose a novel systematic “template” for describing IBBR methods focused on variables that have been demonstrated to alter patient outcomes and are solely under the control of the reconstructive surgeon.

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The Language of IBBR: Is it Precise Enough?

As summarized in [Table 1](#), there are a number of potential sources of confusion when it comes to IBBR. A

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search through the literature will reveal a variety of terms that imply the same meaning. “Direct-to-implant” (DIP) is used interchangeably with “one-stage reconstruction,” “expander-based” is used interchangeably with “two-stage reconstruction,” and a delay of 2 weeks following mastectomy to increase vascularity in the setting of ischemic skin flaps is described as a “delay” that cannot be differentiated from one of several months due to oncologic concern.

A Brief History of IBBR

Halsted’s teachings restricted the use of reconstructive procedures because he considered them a “violation of the local control of the disease.”⁴ As such, breast reconstruction for malignant disease was temporally delayed months to years after mastectomy due to oncologic concerns related to local recurrence and a potential delay in diagnosis.⁵ This early “era” in the history of breast reconstruction (1890–1950), which predated the introduction of breast implants,⁶ was, therefore, essentially devoid of immediate reconstruction. As a result, reconstructive surgeons were not concerned with mastectomy flap ischemia or the lack of an adequate skin envelope to accommodate an implant. This paradigm of reconstruction changed notably starting in the 1950s and subsequently evolved in concert with several important developments: (1) the introduction of breast implants,⁶ (2) the introduction of tissue expansion,⁷ (3) early scientific understanding of the vascular delay (VD) phenomenon,^{8,9} and (4) advances in cancer biology and disease understanding—which has led to more conservative mastectomy patterns and greater importance placed on the psychosocial benefits of expedient breast reconstruction.^{10,11}

M-TDP: A Single Nomenclature for Better Communication and Better Science

In our assessment, the field of breast reconstruction—and IBBR in particular—would benefit by establishing a nomenclature that uniformly and unambiguously describes pertinent specifics for a given IBBR methodology. Documentation, communication, direct comparisons, and rigorous scientific inquiry are optimized when clear and mutually understood terminology is utilized. Similar to how tumor staging is described by a tumor, nodes, metastasis (TMN) classification system to communicate a patient’s oncological status, we propose a descriptive “M-TDP” system to communicate a patient’s IBBR status. In contrast to TNM, we do not intend for the proposed system to guide clinical decision-making but rather, to communicate key variables that can impact IBBR outcomes. Specifically, the “M-TDP” notation system is intended to provide a concise and precise method to communicate variables and decisions related to mastectomy pattern, timing of reconstruction, the type of device placed, and the pocket of device placement.

We specifically propose the use of M-TDP as a foundation for such variables because prior literature has shown that when different mastectomy patterns,^{12–14} reconstructive timing,^{15,16} devices,^{15,17–19} or pockets^{20–23} are compared, outcomes may differ. Moreover, these variables, especially the latter three, reflect factors that are directly under the control of the reconstructive surgeon (as opposed to

Takeaways

Question: Can implant-based breast reconstruction (IBBR) be better categorized by using terms that describe mastectomy type, timing, device, and pocket (M-TDP) to allow for better study comparison and communication?

Findings: There are several studies that do not identify key reconstructive variables such as mastectomy pattern, timing, device, and/or pocket. Terms with prior historical precedent are being used inconsistently.

Meaning: Use of the M-TDP method can facilitate consistent and more accurate communication of IBBR by focusing on the most critical variables that are under the reconstructive surgeon’s control.

patient-related factors such as hemoglobin A1c levels or body mass index). Our goal is to have these key variables easily identifiable to those involved in the reconstructive process and to facilitate data mining for comparison and study without missing cases due to the use of a different or ambiguous nomenclature.

(M): Mastectomy Pattern

Halsted’s radical mastectomy was the standard surgical treatment for breast cancer until the 1940s when the modified radical mastectomy was introduced by Patey and Dyson.²⁴ The development of radiation therapy and chemotherapy as neoadjuvant and adjuvant therapies altered treatment from purely surgical to the multimodal approaches used today. Widespread use of mammography and sentinel lymph node mapping has allowed for cancers to be caught and treated earlier using less invasive surgical techniques.^{25–27} All of these advancements ultimately enabled the shift of breast cancer management from a purely extirpative exercise to a holistic, multimodal treatment paradigm of which breast reconstruction has become an integral component.

The turn of the century saw the rise of prophylactic mastectomies as the discovery and understanding of the BRCA1 and BRCA2 genes as predisposing factors for the future development of breast cancer came into view. These new insights helped usher in yet another stage of mastectomy pattern “evolution” from skin-sparing mastectomy (SSM)²⁸ to nipple-sparing mastectomy (NSM). Increased understanding of a genetically based predisposition to the development of breast cancer has led to younger patients choosing to undergo prophylactic mastectomy for which NSM is often the superior choice cosmetically and psychologically.¹⁰ When the NSM was implemented in patients undergoing prophylactic mastectomies,²⁹ the possibility of using the same technique in cancer patients was proposed. Although there was concern for risk of cancer recurrence due to leaving the nipple-areola complex (NAC), studies have shown limited NAC involvement in low-risk groups.^{30,31} Potential candidates for NSM have expanded to include patients with higher body mass index and larger breasts.³²

In short, advances in the diagnosis and extirpative treatment of breast cancer have resulted in a treatment paradigm that increasingly involves SSM and NSM

Table 1. Terms Used for Implant-based Breast Reconstruction and Potential Sources of Confusion

Term	Implied and/or Intended Context	Subject	Rationale/Objective	CPT Code	Historical Perspective and Considerations
Delayed separate from mastectomy (SFM)	Temporal; timing of device (implant or expander) placement relative to time of mastectomy	IBBR	Oncological safety concerns or similar	19342: insertion or placement of breast implant on separate day from mastectomy 19357: tissue expander placement in breast reconstruction, including subsequent expansion(s)	Halsted's "philosophy" did not support reconstructive surgery in the setting of cancer Before intro of breast implants, this was a moot point for IBBR After the introduction of breast implants (1950s for "pre-silicone" materials and 1960s for silicone implants), delayed IBBR was relegated to patients who were left with large skin redundancy after mastectomy ³⁵ ; this, in turn, was determined by both patient anatomy/size and the mastectomy pattern/method "prevalent" at the time. ³⁵
Delayed	VD phenomenon; ischemic preconditioning	Flap, tissues (ie, for IBBR specifically, mastectomy skin flaps)	Increase reliability and/or extent of flap by leveraging the biology/physiology of the delay phenomenon; minimize chance of flap loss and/or nonhealing due to ischemic skin flaps	N/A	Empiric delay from time of Sushruta and Tagliacozzi ³⁴ Experiments studying delay phenomenon in 1960s initiated delineation of mechanisms, optimal time frames, etc. ^{9,35} TRAM delay for breast reconstruction ³⁶ Mastectomy flap and nipple/NAC delay for NSM ³⁷ Subcutaneous mastectomy with delay ³⁸ Surgical delay of the NAC ³⁸
Staged	Multisteppe; sequenced	All procedures involved in a multi-procedure process	Deliberately designed in more than one surgery	"58" modifier code: modifier 58 is reported when a subsequent procedure performed during a global period on the same body part is staged, planned, or more extensive than the original procedure performed to treat the condition.	Historically, in the context of IBBR, staged became synonymous with use of tissue expander Now, staged may be confused with vascular delay, especially in context of 58 CPT modifier Fat grafting after prepec recon may also be considered a stage in the reconstructive process (including by 58 modifier)
Staged	Use of a tissue expander (ETI)	Device	Create larger skin envelope	19357: tissue expander placement in breast reconstruction, including subsequent expansion(s)	Radovan initiated the use of expanders in breast reconstruction in 1982 ⁷ Note: based on CPT coding (19357), placement of a tissue expander (device) is completely independent from when it was placed (timing); in other words, whether it is placed immediately or delayed, it is the same code
Immediate at time of mastectomy (ATOM)	Temporal; timing of device (implant or expander) placement relative to time of mastectomy	IBBR	Optimize cosmetic outcome; minimize patient time with deformity/enhance psychological recovery of patient. ^{10,11}	19340: insertion of breast implant on same day of mastectomy 19357: tissue expander placement in breast reconstruction, including subsequent expansion(s)	Became increasingly common as: (1) oncologic concerns resolved regarding recurrence, imaging/surveillance; (2) mastectomy patterns evolved to SSM and NSM, leaving larger skin envelopes that could accommodate immediate implant; (3) tissue expander introduced for those patients with skin deficiency (Radovan, etc.); and (4) prophylactic mastectomies due to advances in diagnosis/genetics;
DTI	No use of expander during IBBR	IBBR	Shorten the course of reconstruction and/or expedite patient recovery Improved aesthetic results?	19340: insertion of breast implant on same day of mastectomy OR 19342: insertion or placement of breast implant on separate day from mastectomy	Increasingly popular, especially in concert with NSM, SSM Note: DTI defines device, but NOT timing; in other words, DTI can be ATOM (19340) or DTI can be SFM (delayed; 19342)

patterns—in the setting of both therapeutic and prophylactic objectives. In some cases where extensive ptosis exists, skin-reducing mastectomy patterns are now used, with or without dermal flaps and ADM.^{39–41} We opted to exclude partial mastectomies from the M-TDP system, as IBBR is rarely indicated after these procedures. We propose the following notation for use in the M-TDP system (with “p” denoting prophylactic mastectomy):

1. Nipple-sparing mastectomy (NSM/pNSM)
2. Skin-sparing mastectomy (SSM/pSSM)
3. Skin-reducing mastectomy (SRM/pSRM)
4. Modified-radical mastectomy (MRM)
5. Simple/total mastectomy (TM)

(T): Timing

Over the last 70 years, the term “delay” (in the context of IBBR) has had different connotations and reflected different surgical considerations illustrating a flexible but imprecise lexicon. In 1962, Freeman³³ published his experience of IBBR after “subcutaneous mastectomy” (now referred to as NSM) in the setting of benign breast disease. He described a delay of “some months” for large defects to allow the skin flaps to “organize and heal” and to “shrink and become thicker.”³³

Years later, Watts⁴² described both immediate and delayed IBBR in the setting of mastectomy for carcinoma. He used the term “primary” reconstruction instead of “immediate” reconstruction, and both “secondary” and “delayed” reconstruction to describe the placement of an implant that was “deferred to a second operation,” distinct from the mastectomy. Of note, Watts⁴² emphasizes that the most important factor in determining whether the implant should be delayed is assessment of the “viability of the skin.” We see in Watts’ descriptions multiple terms being used to describe the same concept or procedure. In addition, there is a “transition” in the use of the term “delay/delayed” from one of concern for oncologic reasons to one of concern for flap failure due to flap ischemia and/or skin closure tension.

In recent decades, trends in skin-preserving mastectomy patterns have led to a renaissance of placing implants at the time of mastectomy (ATOM). This strategy provides a great opportunity to achieve cosmetically favorable outcomes but does so in light of risks associated with mastectomy flap ischemia. One approach to balance the risks and benefits of immediate IBBR, especially in the context of NSM, is to delay reconstruction for 2 weeks.⁴³ In this instance, the term “delay” is used to denote the intentional use of the delay phenomenon, also known as VD or ischemic preconditioning. The delay phenomenon describes the observation that a tissue-rendered partially ischemic will enhance its vascularity and thereby facilitate tissue/flap survival when mobilized 1–2 weeks later.⁸ This contradictory terminology poses a predicament—how do we distinguish in our literature and lexicon the difference between “delayed” reconstruction and “delayed” flaps?

Although one can presume that Freeman was knowledgeable of the delay phenomenon from an

empirical perspective—assuming an awareness of the work of Sushruta, Tagliocozzi, Gillies, and others before him—the earliest scientific underpinnings of VD would not be published⁹ until several years after his publication. In the decades since Milton’s seminal paper, dozens of preclinical and clinical studies have demonstrated optimal effects of VD on flap survival to occur between 7 and 14 days⁴⁴ after delay, and up to 28 days in one report.⁴⁵

Building on the experience of Freeman, Watts, and others, Zenn⁴³ described the use of VD after NSM for high-risk patients that might not otherwise be considered for such. This article extends concepts from earlier publications that describe improvement in the survival of the NAC by using a surgical delay.^{17,46} A wealth of literature exists supporting the reconstructive use of a VD to develop more robust flaps and improve flap survival.^{8,47,48} Although Zenn described his methods as a “staged-immediate” breast reconstruction, we believe that the use of the term “staged” to describe reconstructive timing is inconsistent with historical precedent and does not best reflect physiological intent.

Consistent with both historical literature and current procedural terminology coding practice in the United States, we define the timing or initiation of IBBR in the context of when a reconstructive device is placed relative to the time of mastectomy. A device is placed either ATOM or on a day separate from the mastectomy (SFM) (Table 1; Fig. 1). When any device is placed on the same day of mastectomy, the timing is clearly considered as “immediate.” Similarly, when a device is placed at a time separate from the mastectomy, it is considered a “delayed” reconstruction.

Skin flaps intentionally delayed 2 weeks to leverage the beneficial effects of ischemic preconditioning may have altered physiology and different clinical outcomes compared with IBBR strategies that involve immediate reconstruction, or reconstruction initiated more remote from the mastectomy. Without a standardized nomenclature free of ambiguity, it is difficult to study this hypothesis in a rigorous fashion, let alone compare it casually.

Based on these various considerations, we propose that IBBR timing be classified as one of the following in the M-TDP system:

1. Immediate (I)—Reconstruction occurs at time of mastectomy
2. Vascular delay (VD)—Reconstruction occurs separate from mastectomy but within 28 days
3. Delayed (D)—Reconstruction occurs more than 28 days after mastectomy.

Our proposal to define VD using a broad time window is based on prior literature demonstrating potential angiogenic benefits⁴⁵ within this time frame and an understanding that patients cannot always be scheduled using strict time points.

(D): Device

Within the context of IBBR, the reconstructive surgeon has only two choices for creation of a breast mound:

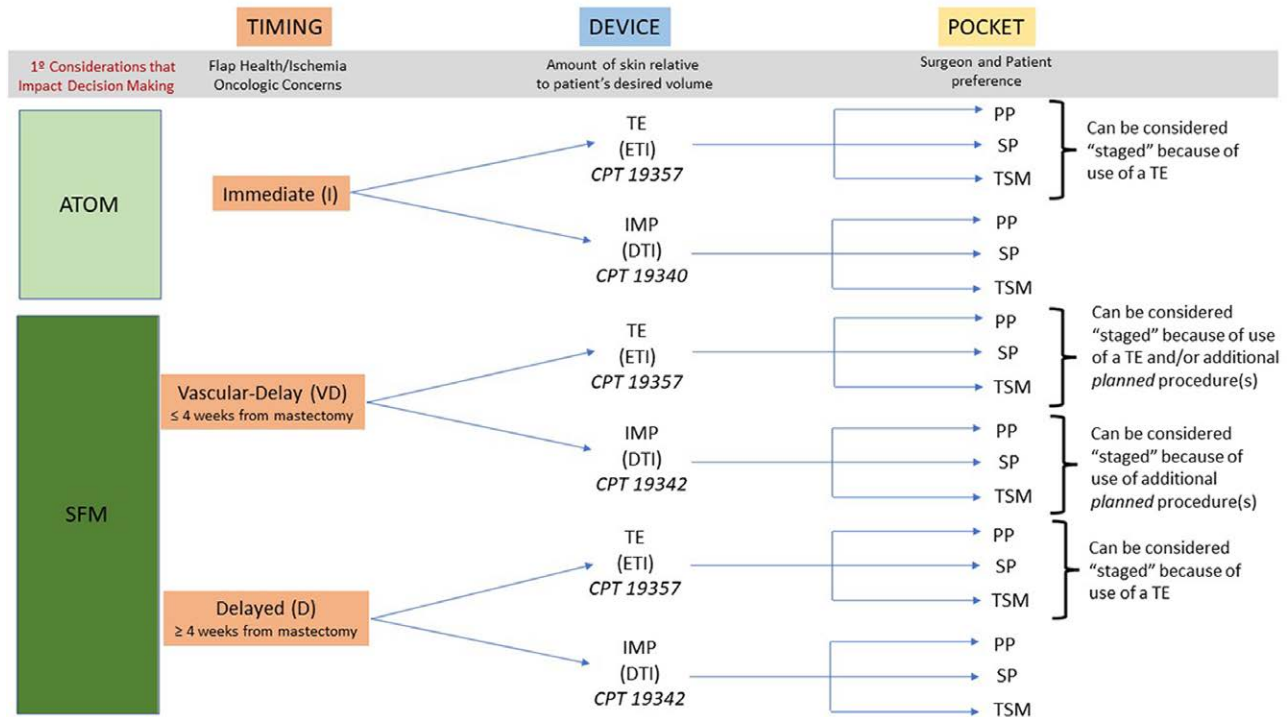


Fig. 1. Categorization of implant-based breast reconstruction using M-TDP notation. ATOM, At Time of Mastectomy; SFM, Separate from Mastectomy; TE, tissue expander; IMP, implant.

placement of an implant or placement of an expander. When adequate skin is present, placement of an implant can be achieved without the use of an expander. This is often termed “direct to implant” reconstruction (DTI), and this seems to be both clear and descriptive terminology—especially when combined with timing and pocket information. When expanders are used, this has been

variously termed “expander-based,” “staged,” or “two-stage” reconstruction. Although the use of an expander could reasonably be described as a “staged” reconstruction, we believe that this is suboptimal nomenclature for several reasons.

The term “staged” has had multiple connotations over the years in the context of IBBR. As noted above,

Table 2. The M-TDP System Is Flexible and Can Be Expanded to Include Additional Variables

Variable	Abbreviation	“M-TDP” Component most Aligned with Variable	Rationale	Example
Sentinel lymph node biopsy	SLNB	M	Treatment/diagnosis of cancer along with mastectomy Usually performed by surgical oncologist	SSM ^{SLNB}
Axillary lymph node dissection	ALND	M	Treatment/diagnosis of cancer along with mastectomy Usually performed by surgical oncologist	NSM ^{ALND}
Radiation therapy	XRT	M	Treatment/diagnosis of cancer along with mastectomy Usually performed by radiation oncologist	XRT ^{NSM} (pre operative) NSM ^{XRT} (post operative)
Chemotherapy	Chemo	M	Treatment/diagnosis of cancer along with mastectomy Usually performed by medical oncologist	SRM ^{Chemo} Chemo ^{SRM} (preoperative or neoadjuvant)
Nipple delay	ND	M	Usually associated with NSM	ND ^{NSM} (premastectomy)
Free nipple graft	FNG	M	Often associated with NSM, ptosis	SRM ^{FNG} (intraoperative)
Autologous dermal flap	ADF	M	Often associated with SRM, ptosis	SRM ^{ADF} (intraoperative)
Intraoperative laser angiography	ILA	M	Related to mastectomy flap vascularity/viability	NSM ^{ILA}
Acellular dermal matrix	ADM	P	Most often used to modify a PP or SP pocket	SP ^{ADM}
Fat grafting	FG	P	Often used to modify a pocket, especially with PP reconstruction	PP ^{FG}

In an effort to balance flexibility, simplicity, and specificity, the M-TDP “foundation” can be modified (or expanded) as desired to reflect any number of variables that may be of specific interest to a particular person/institution/study. The table below lists several variables that may be of such interest, although it is intended to be illustrative and not exhaustive. For any given variable, a superscript abbreviation can be included in association with the M-TDP component that is most aligned with such variable. When the variable describes a preoperative event, it is listed before the pertinent M-TDP component; when it is something intraoperative or postoperative, it is listed after.

publications as early as the 1960s used the term “staged” for IBBR in the context of a “delayed” procedure.^{33,42} That is, an implant was placed at a second stage, or a separate planned operation subsequent to the mastectomy. However, the concept of staged IBBR changed notably in 1982 when Radovan⁷ reported the use of tissue expanders for the “development of adequate skin” as a means to enable IBBR without the need for local or distant flaps. In other words, patients with skin deficiency after mastectomy became candidates for IBBR using a “staged” expander-based approach to expand a skin envelope that otherwise would have been too small to accept an implant and/or match the opposite breast.

From this point forward, the use of the term “staged” breast reconstruction became intimately linked to the use of a tissue expander, as Radovan⁷ distinctly describes “stage 1” and “stage 2” procedures. In this historical context, “staged” describes the placement of a specific type of device (ie, an expander), rather than the timing of reconstruction. The use of an expander is a surgical decision independent from that of reconstructive timing. Rather, the use of an expander primarily reflects the surgeon’s assessment of a patient’s skin adequacy relative to their desired final cup size.

With SSM and NSM techniques emerging as the predominant trend in the surgical treatment of breast cancer, the term “staged” has also been used to describe planned procedures distinct from the placement of a device. In this context, the term “staged” has no clear definition and can take on different meanings based on whether a surgeon uses other planned operations—such as fat grafting, etc.—as part of the reconstructive process. Many IBBRs require multiple “stages” (ie, procedures or revisions) to achieve envisioned goals, many of which do not involve placement of an expander.

Even current procedural terminology coding does not clarify the ambiguity of “staged” procedures. Although a “58” modifier is used to denote a staged procedure, it is neither specific to breast reconstruction nor does it differentiate the type of procedure performed. Due to its multiple potential meanings, we propose that the use of the word “staged” be avoided when possible. Instead, as a corollary to “DTI,” we propose using “ETI” for “expander-to-implant” reconstruction when a tissue expander is placed—regardless of timing or pocket. Thus, the two options for “device” in the M-TDP system are:

1. Direct-to-implant (DTI)
2. Expander-to-implant (ETI)

In the event that a device-based reconstruction is transitioned to a flap-based reconstruction, the following notation is proposed:

1. Expander-to-flap (ETF)
2. Implant-to-flap (ITF)

(P): Pocket

The nomenclature describing the pocket, or tissue plane a given device is placed in is self-explanatory and distinguished as follows:

Table 3. Examples of IBBR Description Using the Proposed “M-TDP” Nomenclature and Notation

Mastectomy Pattern	Timing	Device	Pocket	Adjunct Variables	M-TDP
(R) NSM	Immediate (I)	Tissue expander (ETI)	PP	SLNB; ILA; ADM	Basic notation (R) NSM-I/ETI/PP Notation with variables (R) NSM ^{SLNB,ILA,I} -I/ETI/PP ^{ADM}
Example A: Patient with Right Breast Cancer Undergoes an NSM and Sentinel Lymph Node Biopsy by the Surgical Oncology Team. The Reconstructive Team Then Proceeds to Evaluate the Mastectomy Skin Flaps with ILA. The Flaps Are Determined to Have Robust Blood Flow and Reconstruction Proceeds with Placement of a Tissue Expander in the PP Space, Wrapped with ADM					
Mastectomy Pattern	Timing	Device	Pocket	Adjunct Variables	M-TDP
(R) SSM (L) pNSM	VD VD	DTI DTI	SP SP	SLNB; ADM ADM	(R)SSM-V/D/DTI/SP or (R)SSM ^{SLNB,VD} -VD/DTI/SP ^{ADM} (L)pNSM-V/D/DTI/SP or (L)pNSM ^{SLNB,VD} -VD/DTI/SP ^{ADM}
Example B: Patient with BRCA1+ Genetic Screen and Right Breast Cancer Undergoes a Right SSM and Sentinel Lymph Node Biopsy by the Surgical Oncology Team and a Left Prophylactic NSM. The Reconstructive Team Is Concerned for Mastectomy Flap Ischemia and Decides to Delay the Flaps. Two Weeks after the Mastectomies the Patient Returns to the Operating Room for Subpectoral Placement of Silicone Implants with ADM Slings Bilaterally					
Mastectomy Pattern	Timing	Device	Pocket	Adjunct Variables	M-TDP
(L) SRM	Immediate (I)	DTI	PP	ADF; FNG; ADM	(L) SRM-I/DTI/PP or (L) SRM ^{ADF,FNG,I} -I/DTI/PP ^{ADM}
Example C: Patient with Bilateral Grade 3 Ptosis and Left Breast Cancer Undergoes an SRM with Formation of an Inferiorly based Deepithelialized Adipo-dermal Autologous Flap (Based on a Wise Pattern). A Silicone Implant Is Placed in the Prepectoral Space with the Lower Pole Covered by the ADF, the Upper Pole with an ADM “Sling,” and the Nipple-areolar Complex Relocated as an FNG					

ADF, autologous dermal flap; ADM, acellular dermal matrix; FNG, free nipple graft; ILA, intraoperative laser angiography.

1. Prepectoral (PP): device is placed on top of the pectoralis muscle
2. Subpectoral (SP): device is placed under the pectoralis muscle; also referred to as partial submuscular, or dual plane
3. Total submuscular: device has complete muscular coverage.

Using the M-TDP system proposed, any given IBBR can be categorized in a simple, reproducible manner (Fig. 1). Of course, other variables can be added to this core M-TDP backbone in a number of ways, as outlined in Table 2. In our own institution, we have generated a “dot phrase,” also known as a “smart phrase,” in the electronic medical record that enables quick notation of many of these variables using drop-down menus. It may be further recognized that this type of documentation enables efficient and thorough retrospective electronic medical record “searches” and the generation of specific treatment cohorts that reflect any one of many potential variables one might want to study. Several examples classifying IBBR using the proposed M-TDP system are presented in Table 3.

CONCLUSIONS

Compared with the extensive history and development of surgical oncology practices, early efforts to use implants for breast reconstruction started in the 1960s. The evolution of increasingly conservative mastectomy patterns, the development of new reconstructive techniques, and the introduction of surgical adjuncts—such as expanders and ADM—have fueled the growth of IBBR procedures and introduced new terminology and/or new meanings for old terminology that can lead to confusion. Ambiguity and discrepancies in terminology have made comparing clinical outcomes challenging. In an effort to simplify IBBR to its main variables—mastectomy type, reconstructive timing, device, and pocket—we hope to promote better, more precise communication to optimize IBBR and ultimately generate better outcomes for patients.

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