Nonsuicidal self-injury in children and adolescents: Prevention and choosing treatment

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INTRODUCTION

Nonsuicidal self-injury is the deliberate destruction of body tissue in the absence of any intent to die and occurs for purposes that are not socially sanctioned [1-3]. The behavior most commonly takes the form of skin-cutting, burning, and severe scratching [4,5]. Nonsuicidal self-injury occurs at high rates in adolescents and is associated with adverse clinical outcomes such as suicide attempts [6,7].

We conceptualize nonsuicidal self-injury as a distinct entity that differs qualitatively from suicidal behavior [2]. However, others argue that self-injury with and without suicidal intent represent different versions of the same behavior [8].

This topic discusses prevention and choosing treatment for nonsuicidal self-injury, and focuses primarily upon adolescents because nonsuicidal self-injury occurs far more often in this age group than in children [9]. In addition, the material is restricted to youth who do not have intellectual disabilities.

Separate topics discuss the epidemiology, pathogenesis, clinical features, assessment, and general principles of treating nonsuicidal self-injury, as well as the epidemiology, evaluation, and management of suicidal ideation and behavior in children and adolescents.

- (See "Nonsuicidal self-injury in children and adolescents: Epidemiology and risk factors".)

- (See "Nonsuicidal self-injury in children and adolescents: Pathogenesis".)
- (See "Nonsuicidal self-injury in children and adolescents: Clinical features and proposed diagnostic criteria".)
- (See "Nonsuicidal self-injury in children and adolescents: Assessment".)
- (See "Nonsuicidal self-injury in children and adolescents: General principles of treatment".)
- (See "Suicidal behavior in children and adolescents: Epidemiology and risk factors".)
- (See "Suicidal ideation and behavior in children and adolescents: Evaluation and management".)

TERMINOLOGY

Nonsuicidal self-injury is a behavior characterized by the deliberate destruction of body tissue in the absence of any intent to die and occurs for purposes that are not socially sanctioned [1-3]. By definition, nonsuicidal self-injury is distinguished from suicidal behavior; socially accepted practices such as tattoos, piercings, and religious rituals; accidental self-harm; and indirect self-injury through behaviors such as disordered eating or substance use disorders. Self-injurious behavior that is accompanied by **any** intent to die is classified as a suicide attempt, which is consistent with the practice of most clinicians and researchers [2,10,11]. This approach deliberately errs on the side of safety by categorizing ambivalent behaviors, which include any intention to die, as suicidal.

Additional information about the terminology of nonsuicidal self-injury is discussed separately. (See "Nonsuicidal self-injury in children and adolescents: Clinical features and proposed diagnostic criteria", section on 'Terminology'.)

PREVENTION

Programs for preventing nonsuicidal self-injury in youth are typically implemented in schools, with the goal of increasing awareness about nonsuicidal self-injury, reducing stigma, and encouraging youth to appropriately seek help from adults and trusted others. There are no prevention programs for nonsuicidal self-injury that have established their efficacy in randomized trials.

The main program developed for preventing nonsuicidal self-injury is the Signs of Self-Injury program, a school-based program that focuses upon enhancing knowledge of nonsuicidal self-injury, improving attitudes and behaviors related to help-seeking, and reducing the frequency of nonsuicidal self-injury [12]. In one prospective observational study with adolescents (n = 274)

from five schools, the Signs of Self-Injury program increased accurate knowledge about nonsuicidal self-injury and improved help-seeking attitudes such as openness towards helping a friend who is self-injuring, but did not increase help-seeking behavior [12]. Although the number of adolescents reporting nonsuicidal self-injury in the past month decreased from pre- to post-program by half (10 to 5 percent), this decrease was not statistically significant. The program did not lead to any iatrogenic adverse effects and was well received by the schools.

Indirect evidence that supports school-based prevention programs for nonsuicidal self-injury includes randomized trials indicating that school-based programs can reduce suicide attempts. (See "Suicidal ideation and behavior in children and adolescents: Evaluation and management".)

Beyond formal prevention programs, empirically informed strategies for preventing nonsuicidal self-injury include the following [13]:

- Increasing knowledge of adaptive coping skills and emotion regulation strategies (eg, exercise).
- Enhancing social connections within family, schools, and communities.
- Encouraging adaptive help-seeking behavior and communication about distress and need for mental health care.
- Increasing knowledge of nonsuicidal self-injury among school personnel, parents, and others who may be able to identify signs of distress and act as gatekeepers to appropriate care for youth.
- Given the potential for social contagion among adolescents, nonsuicidal self-injury should not be glamorized and discussion of specific methods or ways to engage in nonsuicidal self-injury should be limited, particularly among individuals who are not already engaging in the behavior. Information about the association between social contagion and nonsuicidal self-injury is discussed separately. (See "Nonsuicidal self-injury in children and adolescents: Pathogenesis", section on 'Peer influences'.)

TREATMENT

Most patients engaging in nonsuicidal self-injury do not seek treatment [3,5,14]. It is not known whether this is due to stigma of the behavior, ambivalence about the efficacy of treatment, or because the self-injury is reinforcing and patients are thus not motivated to pursue treatment.

There are few randomized trials that have focused on treating nonsuicidal self-injury in adolescents. Thus, treatment recommendations in this section are often based upon trials that studied adults with nonsuicidal self-injury or studied adolescents or adults engaging in deliberate self-harm, which is a broad category including both suicide attempts and nonsuicidal self-injury.

General principles — The general principles and issues that are involved in treating nonsuicidal self-injury include:

- Indications for treatment
- Expectations for treatment
- Clinician's attitude toward the patient's behavior
- Family involvement
- Confidentiality
- Determining level of care (setting)
- Increasing motivation for change
- Safety planning (instead of contracting for safety)
- Peer and internet influences
- Monitoring treatment outcomes
- Managing associated mental disorders
- Referral

These general principles are discussed in detail separately. (See "Nonsuicidal self-injury in children and adolescents: General principles of treatment".)

Choosing treatment — For patients engaging in nonsuicidal self-injury, we suggest that treatment proceed according to the sequence described in the subsections below. Patients initially receive first-line therapy and progress through each step until they respond. However, it is reasonable to use these treatments in a different order, based upon availability of treatment. In addition, most interventions for youth engaging in nonsuicidal self-injury have not been compared in head to head randomized trials [15-19]. Also, the decision to use an intervention other than a first-line therapy is reasonable given that many psychotherapy packages include similar components or treatment targets, such as coping skills training [17-19].

- First-line – Dialectical behavior therapy adapted for adolescents.
- Second-line – Cognitive-behavioral therapy (CBT).
- Third-line – Another psychotherapy, such as psychodynamic psychotherapy that includes a family component, interpersonal psychotherapy, family therapy, or emotion regulation

group therapy.

Psychotherapy for nonsuicidal self-injury is typically time limited (eg, 10 to 20 sessions), although it can be longer with treatments like dialectical behavior therapy. Patients treated with psychotherapy generally receive a full course of therapy, regardless of whether nonresponse persists through the middle phases of treatment. However, treatment effectiveness should be evaluated throughout to detect whether the patient is worsening to a degree that treatment should be stopped and/or changed.

Common elements of psychotherapies that have demonstrated efficacy for nonsuicidal self-injury include [1,10,15,16,18-21]:

- Educating patients and family members about nonsuicidal self-injury (ie, psychoeducation).
- Discussing motivation for treatment. (See "Nonsuicidal self-injury in children and adolescents: General principles of treatment", section on 'Motivation for change'.)
- Identifying and addressing the cognitive, behavioral, and emotional factors that lead to (trigger) and maintain nonsuicidal self-injury, including the specific function(s) of the behavior. The antecedents, consequences, and identified function(s) of nonsuicidal self-injury determine the focus of treatment. (See "Nonsuicidal self-injury in children and adolescents: Pathogenesis", section on 'Function of the behavior'.)
- Teaching new skills and behaviors to replace nonsuicidal self-injury as a means of coping with distress, regulating negative emotions, and achieving desired social consequences. These new skills include:
  - Problem solving skills
  - Interpersonal effectiveness and communication skills
  - Cognitive restructuring (eg, changing negative thoughts about oneself)
  - Mindfulness and breathing training
  - Distress tolerance and adaptive emotion regulation skills (eg, exercise)

The treatment plan should be tailored to the patient's specific needs and identified areas for growth. As an example, for adolescents engaging in nonsuicidal self-injury to regulate their emotions, treatment may include distress tolerance and emotion regulation skills, such as exercise and mindfulness. For adolescents who engage in nonsuicidal self-injury for more social reasons, treatment may include interpersonal effectiveness skills such as communication skills and assertiveness training.

In addition, clinicians should [17]:

- Address family communication and functioning; some patients may need to focus upon increasing nonfamilial support.
- Train parents to assist with treatment.
- Treat comorbid psychiatric disorders (eg, anxiety disorders, depressive disorders, and substance use disorders).
- Administer a sufficient number of treatment sessions (eg, 10 or more) to meet the patient's needs.
- Coordinate care with the rest of the treatment team (eg, psychiatrist, social worker, and teacher).

Treatment studies for patients engaging in nonsuicidal self-injury have generally compared a specific psychotherapy with usual care/routine care rather than another specific psychotherapy, and few replication trials have been conducted [15,16]. In addition, most studies enroll patients and assess outcome on the basis of self-harm (or deliberate self-harm), which is a composite variable that includes all self-injurious behavior regardless of intent to die (ie, both nonsuicidal self-injury and suicide attempts).

Evidence supporting the use of psychotherapy in general to treat youth engaging in nonsuicidal self-injury includes randomized trials. As an example, a review examined 19 randomized trials that compared psychotherapy with usual care in children and adolescents (n >2000) who had engaged in at least one episode of self-harm (nonsuicidal self-injury and/or suicide attempts) [17]. The active treatments included many different types of psychotherapy (often combined with usual care); follow-up assessments ranged from 2 to 24 months. The primary findings were as follows:

- A meta-analysis found that subsequent self-harm occurred in fewer patients who received psychotherapy compared with those who received usual care alone (28 versus 33 percent). However, heterogeneity across studies was high.
- Specific therapies with the largest clinical effect included dialectical behavior therapy, CBT, and mentalization based therapy (a type of psychodynamic psychotherapy).
- A separate meta-analysis (11 trials, n >1000 patients) focused exclusively on the effectiveness of psychotherapy in reducing the rate of subsequent nonsuicidal self-injury. Although nonsuicidal self-injury rates were lower among adolescents who received

therapy, the difference between psychotherapy and usual care alone was not statistically significant. Similar to results from the overall meta-analysis, the effect of psychotherapy may have been reduced by the heterogeneity of interventions combined in this analysis. As an example, dialectical behavior therapy reduced nonsuicidal self-injury but group psychotherapy increased nonsuicidal self-injury, suggesting that it may be harmful.

However, other systematic reviews of treatments for self-harm (self-injury regardless of suicide intent) have concluded that the paucity of evidence prevents firm conclusions about the efficacy of psychotherapy broadly for reducing self-harm [22].

Below, we review the best evidence supporting specific treatments for reducing nonsuicidal self-injury in youth.

First-line treatment — For youth engaging in nonsuicidal self-injury, we suggest dialectical behavior therapy adapted for adolescents as first-line treatment. This recommendation is based upon indirect evidence from randomized trials in adults, as well as randomized trials in adolescents that assessed efficacy of dialectical behavior therapy adapted for adolescents for reducing either nonsuicidal self-injury or self-harm, regardless of intent to die (ie, nonsuicidal self-injury and/or suicide attempts) [1,10,15,16,20,21,23,24].

Dialectical behavior therapy in its traditional form is an intensive intervention that requires extensive training for therapists and includes a relatively large number of sessions [25]. Dialectical behavior therapy is a manualized therapy that is typically administered to outpatients. The treatment includes group therapy for skills training (ie, mindfulness, distress tolerance, emotion regulation, and interpersonal effectiveness); individual therapy to prioritize the reduction of self-harming behaviors, address individual patient concerns, and help individuals implement skills learned in group; and skills coaching with the therapist by telephone as needed to assist with skill implementation in real-time [25]. In addition, the therapy includes therapist consultation meetings to help troubleshoot problems, prevent therapist burnout, and generally help clinicians be effective therapists. Dialectical behavior therapy was originally designed to be provided over one year [25], but shorter and modified versions of the full intervention package have been developed for a variety of settings (eg, inpatient or partial hospital) and populations.

Evidence supporting the use of dialectical behavior therapy for nonsuicidal self-injury includes the following randomized trials [26,27]:

- A 19-week trial compared dialectical behavior therapy for adolescents with usual care in adolescent outpatients (n = 77) with repetitive self-harm, which was defined as any self-injury regardless of intent to die [28,29]. More than half the patients had a depressive

disorder. Dialectical behavior therapy for adolescents included weekly sessions of individual therapy, weekly multifamily group sessions addressing skill deficits, single family therapy sessions as indicated, and telephone contact with individual therapists between sessions as needed. Usual care included at least one weekly individual psychotherapy session (eg, CBT or psychodynamically oriented therapy). Psychotropic medications were allowed in both groups. Although reductions in self-harm occurred in both groups, fewer episodes of self-harm occurred in patients treated with dialectical behavior therapy for adolescents than usual care (average of 9 versus 23 episodes). In addition, suicidal ideation and depressive symptoms improved more with dialectical behavior therapy for adolescents than usual care. At the one-year follow-up assessment, greater reductions in self-harm were maintained in the dialectical behavior therapy for adolescents group.

- A one-year trial compared dialectical behavior therapy to usual care in outpatient college students (n = 63) with current suicidal ideation, a lifetime history of self-harm (nonsuicidal self-injury and/or suicide attempt), and at least three borderline personality disorder criteria [30]. Depressive and anxiety disorders were present in approximately 80 percent of the sample and psychotropic medications were allowed in both groups. Both treatment conditions included weekly individual psychotherapy and weekly group therapy, as well as contact with therapists between sessions as needed and family interventions as needed. Although any occurrence of nonsuicidal self-injury was similar in the two groups, the dialectical behavior therapy group had a lower frequency of nonsuicidal self-injury among those who continued to engage in the behavior.

- A six-month randomized trial compared dialectical behavior therapy for adolescents with supportive therapy; the sample consisted of adolescents (n = 173) with at least one lifetime suicide attempt, at least one instance of self-harm (nonsuicidal self-injury and/or suicide attempt) in the past three months, and at least three borderline personality disorder criteria [31]. Both treatment conditions included weekly individual and group therapy, therapist consultation meetings, and parent contact as necessary. Depressive disorders were present in more than 80 percent of the sample and psychotropic medications were allowed in both groups. Fewer patients treated with dialectical behavior therapy for adolescents engaged in nonsuicidal self-injury, compared with patients who received supportive therapy (43 versus 60 percent). In addition, dialectical behavior therapy for adolescents led to fewer suicide attempts. However, follow-up six months posttreatment found that the advantage of dialectical behavior therapy for adolescents had dissipated, suggesting that perhaps longer treatment or maintenance treatment with dialectical behavior therapy for adolescents may be indicated.

Not all randomized trials have found that dialectical behavior therapy reduces nonsuicidal self-injury. In a trial that examined the efficacy of dialectical behavior therapy in adult patients with borderline personality disorder (n = 101), dialectical behavior therapy reduced suicide attempts but not nonsuicidal self-injury [32].

Given the intensive nature of the standard dialectical behavior therapy treatment package, research has aimed to identify its active ingredient(s), and it appears that one such ingredient for reducing self-injurious behaviors is the skills component. A study enrolled women with borderline personality disorder (n = 99) who had multiple lifetime suicide attempts and/or instances of nonsuicidal self-injury, and randomly assigned them to one of three treatment conditions: standard dialectical behavior therapy, dialectical behavior therapy skills training plus case management, or dialectical behavior individual therapy plus an activities group [33]. Results indicated that dialectical behavior therapy packages incorporating a skills component (ie, standard dialectical behavior therapy and dialectical behavior therapy skills training plus case management) successfully reduced nonsuicidal self-injury rates over the course of treatment.

Second-line — Patients engaging in nonsuicidal self-injury may lack access or not respond to dialectical behavior therapy, or may decline this treatment. For these patients, CBT is an acceptable second-line treatment. This recommendation is based on one randomized trial that tested a behavioral treatment for nonsuicidal self-injury, as well as indirect evidence from randomized trials in adolescents and young adults that assessed the efficacy of CBT for reducing self-harm regardless of intent to die (ie, nonsuicidal self-injury or suicide attempts), and randomized trials in adolescents that assessed the efficacy of CBT for reducing suicide attempts. Using CBT to reduce nonsuicidal self-injury is consistent with findings from multiple literature reviews [1,10,15,16,18,19,21,23,34].

CBT is a manualized therapy that combines strategies and techniques from cognitive therapy and behavior therapy. In CBT, the first step is a functional assessment to identify the antecedents (both cognitive and behavioral) and consequences (both cognitive and behavioral) to determine ideal targets for intervention. Cognitive therapy techniques are used to modify the dysfunctional or maladaptive thoughts, beliefs, and attitudes that cause and maintain nonsuicidal self-injury. Techniques include cognitive restructuring, in which patients examine the validity of their dysfunctional or maladaptive thoughts about themselves and work to construct alternative and more accurate self-statements or explanations for their situation. Behavior therapy focuses upon modifying antecedents that may lead to nonsuicidal self-injury, changing consequences to reduce reinforcement of the behavior, and increasing skills training to replace nonsuicidal self-injury with an alternative, more adaptive, coping behavior (eg,

exercise). The cognitive and behavioral skills learned in weekly individual therapy sessions are typically practiced between sessions (ie, “homework assignments”).

Evidence supporting the use of CBT for reducing nonsuicidal self-injury includes the following randomized trials:

- A nine-week randomized trial in young adults (n = 33, mean age 22 years) compared an individual behavioral treatment specifically designed for reducing nonsuicidal self-injury, with usual care that included referrals to mental health care [35]. The behavioral treatment, entitled Treatment for Self-Injurious Behavior, was administered in weekly individual sessions and included psychoeducation about nonsuicidal self-injury, addressing ambivalence about change, functional assessment of the behavior, individualized skills modules (eg, cognitive restructuring, distress tolerance, and interpersonal skills), and termination (review of treatment gains and plans for maintenance). Pharmacotherapy was permitted in both groups. Although power to detect treatment effects was limited in this small trial, patients in the active treatment group reported fewer days of nonsuicidal self-injury and a lower frequency of nonsuicidal self-injury compared with usual care, starting at the sixth week of treatment and continuing through the posttreatment 12-week follow-up assessment.

- A six-month randomized trial compared CBT plus usual care with usual care alone in adolescents and young adults (n = 73, age 15 to 35 years) who presented with self-harm (primarily self-poisoning [overdose]) [36]. CBT consisted of 12 sessions of individual therapy that focused on addressing problem-solving skills deficits and negative thinking patterns. Usual care was based upon patients’ needs and could include psychiatric medication, other psychotherapy, or psychiatric hospitalization. During the three months posttreatment, fewer episodes of self-harm occurred in patients who received CBT/usual care rather than usual care alone (average of five versus one episodes). In addition, the CBT/usual care group exhibited greater improvements in depression, anxiety, suicidal ideation, helplessness, distress tolerance, self-esteem, and problem-solving at the posttreatment three-month follow-up assessment.

However, other research suggests that not all CBT packages are effective for reducing nonsuicidal self-injury. Two randomized trials found that manual-assisted CBT was not effective for nonsuicidal self-injury. Manual-assisted CBT is a brief intervention lasting two to six sessions and provides patients with a manual that includes chapters on problem-solving skills training, cognitive techniques for modifying negative thoughts and regulating emotions, and relapse prevention. The first, small trial (n = 34) compared manual-assisted CBT with usual care in patients 16 to 50 years old (n = 34), and found that rates of self-harm (ie, nonsuicidal and

suicidal self-injury) were comparable for the two groups [37]. A second, larger trial compared CBT with usual care in patients (n = 480, mean age 32 years) with recurrent self-harm (nonsuicidal or suicidal self-injury) who were followed for up to one year [38]. The number of patients who engaged in self-harm was comparable for active treatment and usual care (39 and 46 percent) [37,38].

Third-line — Patients engaging in nonsuicidal self-injury may lack access to or not respond to dialectical behavior therapy or CBT, or may decline these options. For these patients, we suggest another psychotherapy, such as psychodynamic psychotherapy that includes a family component, or interpersonal psychotherapy. Other therapies that may possibly help are family therapy or emotion regulation group therapy. These treatment suggestions are consistent with findings from multiple literature reviews [1,10,16,18,21,23,34].

Evidence supporting the use of psychotherapies other than dialectical behavior therapy or CBT includes a meta-analysis of randomized trials that compared a wide variety of psychotherapies with usual care for treating self-injury in youth. (See 'Choosing treatment' above.)

- **Psychodynamic therapy** – There is some evidence to suggest that psychodynamic psychotherapy may reduce nonsuicidal self-injury in adolescents:

  - Mentalization-based treatment for adolescents is a psychodynamic intervention for reducing self-harm (ie, nonsuicidal and suicidal self-injury) in youth. Mentalization is the ability to understand one's own mental states (thoughts and feelings) and the mental states of others, and how thoughts and feelings underlie behavior [39]. Mentalization-based treatment for adolescents is a one-year, manualized treatment that includes weekly individual therapy and monthly family therapy. A one-year randomized trial compared mentalization-based treatment for adolescents with community-based usual care in adolescents (n = 80) who presented with self-harm (nonsuicidal self-injury and/or suicide attempt) [39]. Reductions in self-harm were greater in the group that received mentalization-based treatment for adolescents group, compared with the usual care group.

  - Additional evidence comes from two studies that compared psychodynamic therapy with dialectical behavior therapy (see 'First-line treatment' above) and found that reductions in self-harm were comparable:

    - A one-year randomized trial compared psychodynamic therapy with dialectical behavior therapy in adult patients with borderline personality disorder (n = 180); psychodynamic therapy focused upon relationships, attachment, and emotion

dysregulation [40]. Reduction in nonsuicidal self-injury was comparable for both treatment groups.

- In a prospective, observational study with adolescent inpatients (n = 62), youth receiving psychodynamically oriented treatment exhibited a similar reduction in self-harm acts (ie, nonsuicidal or suicidal self-injury) at one-year follow-up as patients receiving dialectical behavior therapy [41].

- One randomized trial compared psychodynamic interpersonal psychotherapy with usual care in adults who presented with self-poisoning (n = 119) [42]. Psychodynamic interpersonal psychotherapy focused on the patient's current relationship difficulties and was administered by nurse therapists at the patient's home in four weekly sessions. Usual care typically consisted of referral to the patient's primary care clinician. During the six months following the end of treatment, episodes of self-harm (with or without suicidal intent) occurred in fewer patients who received active treatment than those who received usual care (9 versus 28 percent).

Additional information about psychodynamic psychotherapy is discussed in the context of treating adults for unipolar depression. (See "Unipolar depression in adults: Psychodynamic psychotherapy".)

- **Interpersonal psychotherapy** – Indirect evidence for using interpersonal psychotherapy includes randomized trials that evaluated the therapy for treatment of depressive disorders in youth and adults.

  - (See "Pediatric unipolar depression: Psychotherapy", section on 'Interpersonal psychotherapy for adolescents'.)
  - (See "Interpersonal Psychotherapy (IPT) for depressed adults: Indications, theoretical foundation, general concepts, and efficacy".)
  - (See "Interpersonal Psychotherapy (IPT) for depressed adults: Specific interventions and techniques".)

- **Group therapy** – The evidence for using group therapy to treat nonsuicidal self-injury is mixed [15]:

  - Evidence supporting the use of group therapy includes two randomized trials that examined an emotion regulation group therapy for adult women with borderline personality disorder. This therapy includes elements of acceptance and commitment therapy and dialectical behavior therapy, and focuses on developing skills for accepting

and regulating negative emotions (eg, anger, anxiety, and depression) and for identifying and pursuing important goals.

- A small, 14-week trial (n = 22) compared emotion regulation group therapy plus usual care with usual care alone and found reductions in self-harm (ie, self-injury with or without intent to die) occurred only in the emotion regulation group therapy group [43].

- The second, 14-week randomized trial compared emotion regulation group therapy plus usual care (eg, individual psychotherapy and pharmacotherapy) with usual care alone in patients with recurrent nonsuicidal self-injury (n = 61) [44]. Clinically significant improvement occurred in more patients who received emotion regulation group therapy plus usual care than usual care alone (36 versus 17 percent). In addition, the benefit of treatment persisted at the nine-month follow-up assessment. These findings are consistent with evidence that group therapies focusing on specific dialectical behavior therapy skills training may be effective. (See 'First-line treatment' above.)

- However, mixed evidence has been found across three studies examining developmental group therapy in youth; this intervention combines a skills training component from dialectical behavior therapy, CBT, and psychodynamic group therapies [45]. The treatment includes six weekly group sessions in an acute treatment phase and then booster sessions as needed. An initial randomized trial in adolescents (n = 63) reported that the therapy led to improvement in self-harm outcomes (eg, fewer instances of multiple self-harm, or reduced self-harm “repeaters,” and more time elapsed between self-harm acts) compared with usual care [45]. However, these findings were not replicated in two other trials (n = 68 and 366) [46,47], and one of the trials found that adolescents in the group therapy intervention engaged in more self-harm than adolescents in the usual care condition [47]. Given the potential for social contagion among youth engaging in nonsuicidal self-injury, some group therapies may be harmful for this population. (See "Nonsuicidal self-injury in children and adolescents: Pathogenesis", section on 'Peer influences'.)

Family therapy – The evidence for using family therapy to treat nonsuicidal self-injury is also mixed. One randomized trial found that a parent training intervention may be beneficial, but a second, larger trial examining family therapy produced null treatment effects. Nevertheless, many of the first-line and second-line treatments (see 'First-line treatment' above and 'Second-line' above) include a family component (eg, dialectical behavior therapy for adolescents includes a multifamily skills groups). Therefore, a family component in the treatment plan for

adolescents engaging in nonsuicidal self-injury appears to be important, but family therapy on its own may not be sufficient for reducing nonsuicidal self-injury.

Evidence regarding family therapy for youth who engage in nonsuicidal self-injury includes the following:

- A four-week randomized trial compared Resourceful Adolescent Parent Program (a parent training only program) plus usual care with usual care alone in 48 adolescents with unipolar major depression who presented with at least one episode of self-injury (nonsuicidal self-injury and/or suicide attempt), or had verbalized thoughts or threats of suicide, within the past two months [48]. Parent training (four sessions, each lasting two hours) was provided in a single-family format to only the parents and focused on education about self-injury and adolescent development, and strategies to manage stress and family conflicts and promote adolescent self-esteem and family harmony. Usual care included supportive psychotherapy and/or pharmacotherapy. Reductions in self-injurious thoughts and behaviors (ie, measure of nonsuicidal or suicidal thoughts, threats, or behaviors) and other psychiatric symptoms was greater in the Resourceful Adolescent Parent Program group than usual care alone, and the benefits persisted at the six-month follow-up assessment.

- Findings were not as promising for a randomized trial testing family therapy. A six-month randomized trial compared family therapy with usual care in 832 adolescents who presented with an episode of self-injurious behavior (nonsuicidal self-injury or suicide attempt) and had self-harmed at least twice before [49]. Family therapy (median of six sessions, each lasting about 1.25 hours) was administered in a single-family format and incorporated a broad range of family therapy approaches. Usual care was unrestricted and included individual psychotherapy and/or family therapy. The primary outcome was defined as subsequent self-injurious behavior that was evaluated at a hospital and was assessed for 18 months following randomization. Subsequent self-harm for family therapy and usual care was comparable (28 and 25 percent of patients).

  However, this result may have been due to the infrequent administration of family therapy (approximately one session per month), as well as counting only those episodes of self-harm that required hospital attendance [23]. Most episodes of nonsuicidal self-injury do not require medical attention. In addition, secondary analyses suggested that family therapy may be beneficial for patients who are able to discuss their emotions and live in poorly functioning families.

Additional information about family therapy is discussed in the context of treating adults for unipolar depression. (See "Unipolar depression in adults: Family and couples therapy".)

Other options — For patients engaging in nonsuicidal self-injury who do not respond to first-, second-, and third-line therapies, we suggest another course of a different psychotherapy plus adjunctive pharmacotherapy [16,50]. Reasonable medication options may include selective serotonin reuptake inhibitors such as fluoxetine [51], serotonin-norepinephrine reuptake inhibitors such as venlafaxine, or less often, second-generation antipsychotics such as aripiprazole [15]. In many cases of nonsuicidal self-injury, these medications are prescribed at the outset of treatment for comorbid psychiatric disorders such as unipolar major depression, anxiety disorders, and borderline personality disorder. Medication monotherapy is preferable to polypharmacy [52].

Indirect evidence supporting the use of serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, and second-generation antipsychotics to treat nonsuicidal self-injury includes randomized trials in adult patients with borderline personality disorder. As an example, an eight-week randomized trial compared aripiprazole (15 mg/day) with placebo in 52 young adults (mean age approximately 22 years) with borderline personality disorder who were currently not receiving treatment [53,54]. Self-harm (not defined) occurred three times less often with aripiprazole than placebo (8 versus 27 percent of patients); in addition, the benefit of aripiprazole persisted during 18 months of follow-up. Additional information about the efficacy of antidepressants and antipsychotics for borderline personality disorder is discussed separately. (See "Borderline personality disorder: Treatment overview".)

Adverse effects can occur with selective serotonin reuptake inhibitors and serotonin-norepinephrine reuptake inhibitors (table 1), and with second-generation antipsychotics (table 2); these side effects are discussed separately. (See "Selective serotonin reuptake inhibitors: Pharmacology, administration, and side effects", section on 'Side effects' and "Serotonin-norepinephrine reuptake inhibitors: Pharmacology, administration, and side effects" and "Second-generation antipsychotic medications: Pharmacology, administration, and side effects", section on 'Adverse effects'.)

In addition, there appears to be a slightly increased risk of suicidal thoughts and behaviors (but not suicide death) among a small group of children and adolescents who are treated with antidepressant medications compared with placebo. However, the evidence is mixed and many youth receive antidepressants for unipolar major depression and anxiety disorders because the benefit outweighs the risk of nontreatment. (See "Effect of antidepressants on suicide risk in children and adolescents".)

INFORMATION FOR PATIENTS AND FAMILIES

Multiple resources are available for patients with nonsuicidal self-injury and their families. (See "Nonsuicidal self-injury in children and adolescents: General principles of treatment", section on 'Information for patients and families'.)

SUMMARY AND RECOMMENDATIONS

- Nonsuicidal self-injury is a behavior characterized by the deliberate destruction of body tissue in the absence of any intent to die and occurs for purposes that are not socially sanctioned. (See 'Introduction' above and 'Terminology' above.)

- Programs for preventing nonsuicidal self-injury in youth are typically implemented in schools, with the goal of increasing awareness about nonsuicidal self-injury, reducing stigma, and promoting appropriate help-seeking behavior. Although there are no well-established prevention programs, empirically based prevention strategies include enhancing adaptive coping skills, boosting social connectedness, and facilitating discussions about mental health and positive attitudes about help-seeking. (See 'Prevention' above.)

- The general principles and issues that are involved in treating nonsuicidal self-injury include addressing confidentiality, deciding upon the appropriate level of care, increasing motivation for change, developing an effective safety plan (instead of contracting for safety), monitoring treatment outcomes, and managing comorbid psychiatric disorders. (See 'General principles' above and "Nonsuicidal self-injury in children and adolescents: General principles of treatment".)

- The cornerstone of treatment for pediatric nonsuicidal self-injury is psychotherapy. We suggest that acute treatment proceed according to the sequence described below. However, it is reasonable to use these treatments in a different order because none of these approaches is well-established for nonsuicidal self-injury. (See 'Choosing treatment' above.)

    - For youth engaging in nonsuicidal self-injury, we suggest dialectical behavior therapy adapted for adolescents as a first-line treatment, rather than other treatments (**Grade 2B**). (See 'First-line treatment' above.)

- However, some patients engaging in nonsuicidal self-injury may lack access to or not respond to dialectical behavior therapy, or may decline this option. Cognitive-behavioral therapy is an acceptable alternative to dialectical behavior therapy. (See 'Second-line' above.)

- Other reasonable treatments include psychodynamic psychotherapy with a family component, interpersonal psychotherapy, emotion regulation group therapy, and family therapy (specifically, parent training), although the two options discussed above are preferable. (See 'Third-line' above.)

- Some patients engaging in nonsuicidal self-injury, who do not respond to multiple courses of psychotherapy, may be treated with adjunctive pharmacotherapy. (See 'Other options' above.)

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